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ESP AGROFORESTRY TRAINING OF TRAINERS (TOT) CURRICULUM PREPARATION

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A regular learning day during "Community Participatory Workshop for Environmental Conservation" in Sayum Sabah village, Sibolangit sub district, Deli Serdang district, North Sumatra on July 21-27, 2005.

ESP AGROFORESTRY TRAINING OF TRAINERS (TOT) CURRICULUM PREPARATION

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

This Agroforestry ToT Curriculum was prepared by a small team during the period mid-February to early April 2006. The preliminary work of the team, up to early March can be found in the Inception report (Annex 1). Since that time the work of the team has focused on refining the themes for the Agroforestry ToT curriculum and preparing supporting materials.

A significant amount has been achieved during this assignment, but much remains to be completed before the ToT can commence. This report takes the process to the point where a technical team can begin work on elaborating the specific materials for each of the training topics, preparing a wide range of other supporting materials and undertaking all of the organisational and logistic preparations that need to be completed ahead of the ToT commencing.

ToT Curriculum - Major Themes

The TOT Curriculum consists of 7 themes, 45 sub-themes and 162 training topics. There are five closely interrelated major training themes that form the core of the ToT curriculum, and two supporting themes, these are:

1. Agroforestry Nurseries and Planting.
2. Kebun Management and Improvement.
3. Training Facilitation and Networking.
4. Field School Management.
5. Agroecosystems (AES) and Watershed Management (WSM).

Supporting and Linking Themes provide a link other important ESP activities that will be taking place in the locations where Agroforestry FFS will be implemented.

1. Norming Good Practices in Health and Hygiene.
2. Norming Good Management Practices.

Implementation Issues

ToT Start Date. The issue of when to commence the Agroforestry ToT remains a critical and outstanding issue. In 2006 Puasa (Ramadan, the Fasting Month) occurs between 28th September and 25th October, Lebaran the major religious and family festival at the end of Puasa on 24-25th October. If the ToT were commenced by 15th May it would, in theory, be possible to complete the ToT before the beginning of Puasa, with about a week of spare time to allow for slippages. In all, for practical purposes the Puasa and Lebaran period may take up to 5-6 weeks during this year.

It is not considered that it will be possible to complete all the pre-ToT tasks in time for the ToT to start on 15th May – in particular: preparation, review/testing and revision of most of the Field Guides and Lesson Plans; recruitment and orientation of new staff; completing negotiations with Local Government and BLPP for use of the training centre and field activities; completing negotiations with the surrounding villages (Desa ESP).
If it is not possible to complete all these tasks to the degree necessary prior to 15th May (or 22nd May), then an alternative is to delay the commencement of the ToT, use the time available for more thorough preparations, and commence in early-mid August; a subsidiary

alternative would be to commence in late July. With either of these approaches, the ToT FFS would start immediately after Lebaran, and could be completed either by mid-January (with an mid-late August start) or immediately prior to Christmas (with an late July-early August start).

Preparation of Training Materials. Overall, the curriculum team considers that it will take *approximately three calendar months* to prepare all or almost all of the training materials needed for the agroforestry ToT. It should be noted this estimate assumes that (i) personnel with the necessary expertise are all available, (ii) almost all documentation can be sourced without undue difficulty or loss of time, and (iii) no unforeseen delays or obstacles are encountered.

Of the five main themes in the ToT, preparing training materials for three themes (Nursery and Planting, Kebun Management, AES & WSM) will be the most challenging and time consuming; in addition, time will also be required to at least rough out the detailed structure and technical content of the FFS training materials. Preparing (reorienting) existing training materials for two themes (Facilitation and Networking, FFS Management) will require less time.

The curriculum team is well aware that ESP is keen to commence the agroforestry ToT as soon as possible. The team has intensively discussed the alternative means available for achieving this goal. The team has concluded that it is not advisable to commence the ToT before all or almost all of the training materials are ready to be used.

ESP management considers it important that someone with an overall vision of the current and potential role of agroforestry in Indonesia (e.g. its role in WSM, biodiversity protection, rural socioeconomic development and environmental protection) and with in-depth practical technical expertise of agroforestry *as it is practiced by farmers*, be a member of the team. The curriculum team fully supports this perspective, but notes that such people are usually extremely busy and difficult to hire at short notice.

Training Location

The consensus of the team is that BLPP at Saree, Aceh, is the most suitable location for the Agroforestry ToT as it provides the broadest representation of agro-ecosystem found in ESP sites in both Sumatra and Java.

1. AGROFORESTRY TOT - INTRODUCTION

1.1. BACKGROUND

The earlier parts of the Agroforestry Training of Trainers (ToT) Curriculum development process were described in the Inception Report (2 March 2006 – see Annex 1, which also includes the Scope of Work (SoW) for this assignment). The round of meetings and discussions outlined in that report was completed with visits to ESP Jawa Timur (12-14 March) and Jawa Tengah (15-19 March).

In both locations we were warmly welcomed by the Regional Teams. We are extremely grateful for the valuable contributions our colleagues in ESP have made to our work. Many Thanks!

The latter half of March and early April was spent: (i) refining the themes for the curriculum, (ii) preparing the list of topics to be included under each theme, (iii) defining the goals and objectives for each of these topics and their linkages, using a standard format; (iv) completing the review of potentially useful training materials, (v) preparing a draft training schedule for the ToT, (vi) preparing a draft daily schedule for the ToT, (vii) preparing a draft training plan for the Agroforestry Field School to be conducted during the ToT, (viii) preparing draft examples of Field Guides (*Petunjuk Lapangan* or *PetLap*) for several selected groups of topics, and (xi) preparing a draft budget for the ToT and follow-up work.

Prior to discussing the details of the Agroforestry ToT curriculum, the broader context in which the ToT graduates will work is sketched in. This includes the approach of using Farmer Trainers to rapidly expand the number of the Agroforestry FS, while limiting the total cost per Field School. This, in turn, is closely linked to the establishment, support and expansion of two levels of 'active networks'. The first links together the ESP Agroforestry trainers (and others) for regular information exchanges, cross-visits and further, in-depth training in technical, facilitation and managerial skills. The second, links together the Farmer Trainers with broadly the same aims, but also so farmers have access to regular, structured opportunities to learn about what is happening with ESP WSM and agroforestry activities outside their local area, district and province. It is anticipated that these two networks will also find many opportunities to collaborate and conduct joint training and information exchange workshops and other training sessions.

On 3rd April 2006 a presentation of the work-in-progress was made to USAID Jakarta, and later the same day an internal presentation and more extended discussion took place at ESP Jakarta. The materials used in these presentations are available as a separate document.

1.2. STRUCTURE OF THE REPORT

The next chapter of this report outlines the Curriculum Preparation Process used for preparing the Agroforestry ToT curriculum. The following chapter discusses the implementation and management of the agroforestry ToT. This is followed by a chapter that presents the proposed training themes, sub-themes and topics, and the other materials that will be used in the ToT, whichis followed bya discussion of potential post-ToT activities. The final chapter presents preliminary budget estimates for the agroforestry ToT and follow-up activities.

1.3. DELIVERABLES

The SoW for this assignment requires three types of outputs:

1. Initial report covering a generic design for an ESP Agro-Forestry Farmer Field School. This report should be produced by the end of the second week of the consultancy.
2. Training Design Report comprising the Design for the Training of Facilitators for Agro-Forestry Farmer Field Schools including curriculum, daily and weekly cycles, site selection, evaluation plan, and necessary technical input.
3. A proposed one year training plan/implementation schedule for ESP Agro-Forestry Training activities with an estimated budget.

The Inception report (submitted 2 March 2006) contained a generic design for an Agroforestry Farmer Field School (FFS), and this can be found attached in Annex 1. This design has been considerably refined during the ensuing month, based on contributions for ESP colleagues and others. This design and supporting materials forms the core of this report.

1.4. CURRICULUM PREPARATION PROCESS

The range of activities required for preparation of the Agroforestry ToT Curriculum (AF ToT) have proceeded in parallel. One stream of activities, pursued until about the middle of the process, was a round of extended and informal discussions with colleagues at ESP's regional offices, specifically the Regional Advisors and Watershed Management (WSM) and Agroforestry Specialists. A second stream was meetings and discussions with senior staff of relevant government agencies, i.e. forestry and agriculture, and members of national and international NGOs engaged in agroforestry-related activities. The third stream was continuing and intensive discussions between team members and colleagues in ESP on all aspects of the AF ToT curriculum and its linkages to other aspects of the ESP program, e.g. health and hygiene. The latter was closely related to continuing work, the fourth stream, on mapping out the proposed technical content, training schedule and processes that the ToT would follow. This has been the most time consuming and, possibly, the most intellectually demanding aspect of the work.

A preliminary definition of possible ToT themes was prepared prior to embarking on the process sketched above. This was based on the three areas of interest expressed in the

TOR: technical content, facilitation skills, and organisational skills. This framework quickly evolved into a more 'thematic' approach to structuring the ToT curriculum. This evolution was stimulated by two factors: (i) the detailed exploration of the ranges of technical and other skills, including manual, interpersonal and training skills, that the ToT graduates will need to achieve if they were to be acceptable and credible to everyday farmers; (ii) the need to have clearly defined 'threads' from which to 'weave' the complex content of the ToT curriculum. These tentative themes underwent further refinement as the process continued; and, importantly, the design that has been evolved anticipates that there will be further refinement during the actual ToT process.

1.5. GUIDING PRINCIPLES

Early in the preparation process the team agreed that a guiding principle would be to design an agroforestry ToT curriculum for training graduates who would be capable of and strongly orientated towards *meeting farmer's needs*. In practical terms this meant taking our best informed assessment of dryland farmer's situation and using this as the starting point and 'touch stone' for identifying the skills that the ToT graduates will need to have. For instance, in planning the general structure and schedule of the Field School (*Sekolah Lapangan – SL*) we took as the point of departure the farmer's need to reliably increase the income the family gains from their *kebun* (and housegarden or *pekarangan*). [1] This is an outcome which, in general, requires farmers to identify ways and means for increasing the productivity of land and labour, i.e. higher output per unit area and per unit of labour input. This led to means for defining the practical steps needed to achieve this, including the need for working with farmers during the agroforestry SL to identify, analyse and understand the most significant living components of their kebun and then use the results of this process to make plans for a more productive kebun, and/or address land and water rehabilitation issues, based on the farmer's and the farmer groups' newly gained insights.[2] The knowledge and skills required for guiding farmers through such a process – as one example – were then used to define the topics, technical knowledge and practical field-based learning activities that the ToT participants would need to master, so as to work effectively with farmers to help them achieve the desire outcome of reliably increasing the productivity of their *kebun* and their income.

The corollary to this is that topics for which clear linkages to farmer's agricultural needs could not be identified have not, with some specific exceptions, been included in the proposed curriculum. The specific exceptions include the knowledge and skills needed to build linkages to ESP's other major components, e.g. Health and Hygiene (H&H), and ensure that agroforestry skills and knowledge are located within the broader context of WSM at the local (i.e. sub-DAS) level.

[1] There is no direct English equivalent for the Indonesian work '*kebun*', i.e. a relatively small area (commonly 0.25 to 1 ha) of dryland agroforestry, generally located some distance from the farmer's house. In Indonesian it is distinct from '*perkebunan*' (a commercial plantation) or a '*pekarangan*' (housegarden). Neither of the words 'plantation' or 'orchard' in English come close to capturing the local meaning. Hence, the Indonesian word will be used in the text.

[2] The discussion here is focused on ecological and social factors, however the ToT curriculum and the proposed SL also take account of prices, market prospects and other 'external' factors.

Although it may seem obvious, long experience shows that small-holder dryland farmers – most of whom are already poor or on the margins of poverty - are only willing to consider adopting new ways of doing things it they can see clear, fairly safe short-term benefits to be realised. Unless such benefits are obvious and attainable with the resources currently available to them, they usually make a quite rational decision not to adopt the proposed changes. If, on the other hand, they can clearly see fairly certain short-term economic benefits, and may also be able to envisage the possibility of medium- and longer-term benefits, then adopting an innovation may be worthwhile.

Overall, the learning patterns in the curriculum follows a progression from smaller to larger in physical scale, i.e. from the nursery, to the *kebun*, to the village and, at a later stage, the sub-watershed, and in the economic sphere from the home to the market. In terms of complexity, the topics proceed from the simpler to the more complex, often in parallel with the sequential increase in physical scale.

1.6. ASSESSMENT OF CANDIDATE TRAINING LOCATIONS

Three candidate locations were visited during the assignment, and each was systematically assessed for it suitability as the location for the Agroforestry ToT course. The main factors used in making this assessment were: location and access; adequacy of teaching, accommodation, field work and supporting facilities; access to local villages for field exercises; and cost per person per day (the complete assessments can be found in Annex 6). A broader technical consideration was whether the surrounding agroecosystems and village communities were adequately representative of such conditions in the 6 ESP provinces. Linked to this criterion was ease and speed of access to local farming communities, as it is in these communities that much of the ToT's field exercise and the FFS will be based.

The first location visited was the church retreat facility in Sukamakmur-Medan, located about 1.5-2 hours from Medan in the Deli valley. This fulfilled all the criteria regarding ease of access and physical facilities – with comfortable, long-term accommodation available for more than 50 people. However, the team judged the range of easily available agroforestry systems and communities to be limited, as those that were accessible had only a limited range of variation.
The second location visited was the agricultural training facility (BLPP) in Saree, Aceh, located about one hour south of Banda Aceh on the flanks of the Gunung Seulawah. This fulfilled all the criteria regarding ease of access and facilities, with long-term accommodation for up to 100 people. There is a wide range of agroforestry, irrigated and other farming systems surrounding the facility and the landscape, soil and other features make it somewhat representative of conditions to be found in both Java and Sumatra.

The last location visited was the agriculture and forestry training centre (KIPPK) in Magelang, Jawa Tengah is easily accessible and located about 1.5 hours north of Yogyakarta. There is a wide range of agroforestry systems close to the centre. However, the centre only has accommodation for about 45 people and it is doubtful if this would be suitable for a long-term course.

Taking into account all of these factors, the consensus of the team is that BLPP at Saree, Aceh is the most suitable location for the Agroforestry ToT. However, the team was also aware that this location will add somewhat to travel and transport costs (in comparison to the Medan site) and there may be some issues regarding security that will require attention.

1.7. THE AGROFORESTRY TOT TO FFS PROCESS AND BEYOND

The ToT is an early step in the process of ESP's plans to improve local level WSM in selected watershed critical for ensuring the quantity and quality of downstream urban water supplies. Briefly, the strategy, in parallel with other ESP activities, is to provide upland farmer families and communities with the knowledge and skills necessary to adopt 'conservation farming' practices for their dryland agriculture (especially agroforestry, or *kebun*), so as to conserve and protect water supplies (both surface and recharge). It is anticipated improved dryland farming practices will also assist farm families reliably increase their incomes, via achieving increases in labour and land productivity.

The graduates from the Agroforestry ToT will return to their ESP regional teams and take up their duties as members of the WSM team. It is anticipated that their main duty will be establishing and running Agroforestry Farmer Field Schools (AF FFS) at selected locations within their region. They are also likely to have responsibilities in other aspects of regional activities. Each region will recruit at least four people for the Agroforestry ToT, and it is assumed all four will graduate.

Operating in pairs, at least for the first round of AF FFS, it is envisaged that they will establish and run four FFS in parallel during the first six months after graduating. This implies that they will directly train about 100 farmers during this period. During the second period, when it is assumed they will be working individually, each graduate (now possibly called *Pemandu Lapangan – PL Agroforestri*, instead of Field Assistant) could train about another 100 farmers, i.e. about 200+ per year. This is considered to be a rather limited means of employing of their new capabilities, and, most importantly, engaging and employing the capabilities of some of the farmers that have participated in the AF FFS. In brief, it limits expansion of the number of farmers trained to linear growth. An alternative approach would allow, potentially, an almost exponential increase in the number of farmers trained and, consequently, a broader application of conservation farming practices (and a major positive change in the Agroforestry ToT benefit-cost ratio).

1.8. FARMER TRAINERS

An alternative approach involves identifying and training farmers to become trainers themselves. This approach was used with great success throughout Asia in FAO's IPM in Rice and Vegetable project during the 1990s. Long-term experience shows that participation in a FFS stimulates some farmers – in general, those who have a greater engagement in and appreciation of their new capabilities – to want to learn how to pass these capacities to their fellow farmers. Their commitment can be made more effective, and they more confident, by

providing them with follow-up short-course training in facilitation and technical skills, followed by organisational, technical and modest financial support for establishing and running new AF FFS. These new trainers are commonly referred to as Farmer Trainers or *Petani Pemandu*.

The candidate Farmer Trainers would be provided with about a two week ToT course focusing on facilitating and management skills, but also providing technical training on topics that are regarded as critical for assisting farmers to better understand and manage their kebun AES. These Farmer Trainer ToT would, potentially, be conducted by Agroforestry Pemandu in the period between the cycles of Field Schools. This is anticipated to be a period of about two months (or longer) every four months or so. Having completed the ToT, the new Farmer Trainers could immediately start work on forming new farmer groups, with support from an ESP Pemandu, that would commence approximately one month before the next round of FFS to be conducted by the ESP Pemandu. This would, potentially, provide the new Farmer Trainers with up to a month of dedicated support from the now more experienced Pemandu Agroforestry, and continuing but lower level of support for the remainder of the first FFS. As with the ToT graduates, it is proposed that during the first cycle of FFS the new Farmer Trainers work in pairs, and only after successfully completing one FFS would they start working independently.

It is suggested that Farmer Trainers be run independently on Sumatra and Java, on schedules suited to their own needs and seasonal rainfall patterns. Hypothetically, the first season of Field Schools on each island should result in the identification of about 24 candidates (2 per FFS x 3 regions x 4 FFS), which is an appropriate number of participants for a short ToT course. For a potential total of 48 new Farmer Trainers ESP-wide by the second half for the first year of Agroforestry Field Schools, and an overall total of about 70+ trainers.

There does not appear to be any inherent reason why all of the Field Schools need to be 'in step'. with regard to timing. In fact, seasonal factors, e.g. the time of onset of the rainy season, may prove to be a more significant determinant of timing that a project-determined schedule.
A calculation shows that even training and supporting two Petani Pemandu from each FFS run by the ESP Pemandu quickly leads to a rapid increase in the number of farmers it is possible to train - these calculations below are based on an assumed duration of two years from late 2006 and no FFS conducted in the last year of the project. By themselves two Agroforestry Pemandu would be able to run about 28 FFS during a two year period (four 4-month long FFS, allowing time for other duties and FFS preparation). Identifying and training two Farmer Trainers per FFS from the 2nd round of FFS (2nd cycle) would increase the number of FFS that could be run in two years by about 48 (total about 76). That is, instead of ESP training some 700 farmers in two years, approximately an additional 1,200 could be trained, i.e. about 700 vs. 1,900 farmers could be trained during the same period.

Multiplied by an assumed 30 trainers, plus additional Farmer Trainers who are part of the above model, and the number of farmers trained during the first two years could amount to up to 30,000 farmers, i.e. about 5,000 per ESP region.

It can be anticipated that even more potential Farmer Trainers could be identified, i.e. those from the FFS conducted by the new Farmer trainers. This raises the issue of ESP having to decide how many farmers it wants and needs to train during the time available?

If ESP is going to adopt such an approach – and there are strong social, technical and financial incentives for doing so – then budget provisions will need to be made. These will need to cover the on-the-ground both the costs of running the Agroforestry SL (which will probably the same for all Agroforestry SL) and provide an honourarium for Farmer Trainers and cover their transport and other out-of-pocket costs; management, monitoring and evaluation support will also be essential.

In the second year, one of the topics that the ESP Pemandu and Farmer Trainer's Networks may want to consider (in a joint workshop) is: Is it possible to develop an operational and financial model that would allow communities to support the work of Farmer Trainers into the future? and What level of support is necessary for the Farmer Trainer's Network and where might the necessary funds be sourced?

1.9. ACTIVE NETWORKING

As noted two types of similar and overlapping *active networks* are proposed. In this context active networks refers to networks of practitioners who meet on a regular schedule to increase their capabilities through mutual exchanges of relevant information, focused cross-visits and further, in-depth training in technical, facilitation and managerial skills associated with agroforestry, WSM and biodiversity conservation. It is proposed that during the implementation of ESP the program will provide the necessary financial and other support required to allow network members (primarily, ESP Agroforestry Trainers and Farmer Trainers) to travel to other locations, prepare training and information materials, and conduct training sessions and workshops on a regular basis. In the medium-term, the goal would be for these networks to attract funding from other sources, so that they are able to continue after the ESP has been completed. The draft budget for the first year of agroforestry activities includes an estimate of the costs of supporting these active networks.

One of the conditions for such networks being successful and long lasting is that they meet the needs of their members and are directed and managed by their members. This is especially so of a network composed of farmers who have independent means of income (albeit limited) and who have agreed to work with ESP as Farmer Trainers, for instance, on the basis of their personal commitment to improving the lot of the fellow farmers and conserving and rehabilitating local environments. ESP can be fairly confident of gaining great benefits in attaining its environmental and broader goals to the extent that it respects the members of the 'Farmer Trainers Networks' (to give them a name) and treats them as genuine partners in a worthy enterprise, as opposed to an instrumental approach which seeks to bend the farmers and the network to its own purposes while, albeit inadvertently, marginalising their needs and initiatives.

ESP Trainer's Network. This is a network that would be fully supported by ESP for the duration of the program. Its prime focus would be to bring together Agroforestry trainers, and others from the regional WSM teams, on a regular basis to continue deepening their knowledge and skills and discuss and analyse their accumulating experience with implementation so as to distill lessons that can be applied to their and others work.

In the time available the Agroforestry ToT can not provide training in all of the topics considered to be relevant, nor will it be able to provide sufficient depth of analysis and

practice for all of the topics covered. In addition, it is anticipated that new issues and questions will often emerge from practice that require further analysis and, possibly, supplementary training. Thus, in addition to being a forum for exchange and analysis of experience, the Trainers network will also provide a venue for continuing, deepening and broadening knowledge and skills. In this regard, it may also be a suitable forum for inviting colleagues from other project and programmes – government, NGO, research or academic – to participate either as resource persons or to benefit from the discussions and training workshops and courses that will be provided.

Given that ESP is divided into two broad regions – Sumatra and Java – it may be appropriate for the Agroforestry Trainers (and others from the WSM teams) to meet every three months with local colleagues, and every six months to hold an ESP-wide discussion and training workshop. Following the norms set during the ToT these workshops and meetings should use an agreed agenda and combine field activities, experiments and discussions within a structured framework.

Farmer Trainer's Network. The focus of activities in this network is should be determined by the initiative and needs of its participants, rather than by ESP. However, in general terms the pattern of its activities is anticipated to be similar to that of the ESP Trainer's Network, except that time and financial constraints may mean that activities tend to be more focused within the province rather than linking across provinces. On the other hand, if ESP wants to work towards a national-level network of agroforestry (i.e. Land Care) practitioners then means may need to be found to support regular national level discussion and training workshops and meetings, especially of these can also serve to build momentum towards positive changes in the policy and legal framework governing upland tenure and land use.

2. AGROFORESTRY TOT - CURRICULUM

2.1. STRUCTURE OF THE AGROFORESTRY TOT CURRICULUM

The ToT curriculum is deliberately a work-in-progress. From the outset, ESP has intended the Agroforestry Tot curriculum be considered a *living document* – which is to be used, tested and refined during the implementation of the ToT. The collection of preliminary Lesson Plans (completed only to the level of defining lesson goals and objectives using a standard format) and the wide range of hands-on training materials to be used, i.e. Field Guides or *Petunjuk Lapangan* (almost all of the above materials have to be fully developed prior to the ToT commencing), which are designed to fully integrate field exercises in the training process, are also living documents that will be refined and expanded during the ToT and beyond.

During this assignment the major and minor themes for the ToT have been identified and refined – these are described below. Based on each of these themes a series of topic headings (a two-digit level of detail) were identified, and for each of these headings a range of training topics (three-digit level of detail) were developed. At the three-digit level the type of activity (big group or small group – *kelompok besar atau kelompok kecil – kk /kb*) was defined, the location of the activity identified (Class Room or Field Exercise – CR or FE, within the ToT or in the village) and the duration (*Waktu*) of the activity specified.

The daily and weekly schedule of activities has been proposed; see below under Implementation and Management for the schedule. A preliminary training schedule covering the whole 18 weeks of the ToT was prepared. This document specifies the progressive development of training for each of the five major themes, and integrates these to the degree possible with other activities such as Field Trips, Morning and Afternoon Field Work, and the two supporting themes.

2.2. IDENTIFICATION AND CLARIFICATION OF MAJOR THEMES

This section presents the main results of the processes outline above. It commences by identifying and describing the five major and two supporting and linking themes for the Agroforestry ToT curriculum.

The four themes provisionally formulated in the Inception Report have been intensively discussed by the team and with ESP colleagues during the past month. As a result the themes

have undergone considerable refinement, and the linkages between the themes and to ESP's broader goals and objectives have been thoroughly explored. However, it is recognised that this is a 'work-in-progress' undertaken under severe time constraints and further refinement, even wholesale changes, can be anticipated.

The number of major themes was increased to five, with the inclusion of a separate theme focusing on Field School Management - and the content of each of the themes has been more closely defined. The aim of these refinements is to provide a clearer focus on the knowledge and practical skills that graduates from the ToT will need to work effectively with farmers. The major elements of each of the themes is summarised below.

2.3. MAJOR THEMES

There are five closely interrelated major training themes that form the core of the ToT curriculum, these are:

1. **Agroforestry Nurseries** - establishment and operations, including specific technical skills needed to: select, germinate, graft, nurture and plant out seedlings; manage pests and diseases; preparing and using organic potting media and fertilisers, including composts.
2. **Kebun Management and Improvement** – analysing current land use and the kebun agroecosystem (AES); soil ecology and landuse; planning improvements; kebun maintenance; managing pests and diseases; preparing and using organic fertilisers.
3. **Training Facilitation and Networking** – theory, methods and practice of adult non-formal education; stimulating creativity and communications; planning and facilitating group work; organising and managing training and networking; conflict resolution; farmer studies.
4. **Field School Management** – preparation, conducting and following-up field schools.
5. **Agroecosystems (AES) and Watershed Management (WSM)** – mapping skills and map making; assessing the sub-watershed AES; identifying degraded land and landcare options; land use and land tenure issues; water quality and conservation; WSM laws and policies; economic, ethnic and social issues.

2.4. SUPPORTING AND LINKING THEMES

These two themes provide a link other important ESP activities that will be taking place in the locations where the Agroforestry FFS will be implemented. For these two themes a somewhat different approach to training is proposed than for the five major themes.

1. **Norming Good Practices in Health and Hygiene –** improving sanitation and environmental cleanliness; healthy drinking water; waste management; hand washing using soap.
2. **Norming Good Management Practices –** The theme SL Management will provide the ToT participants with training and day-to-day practice in the planning, implementation and follow-up aspects of running a field school.

2.5. IMPLEMENTATION ISSUES

As noted, the focus during the first two months is on preparing the ToT participants to commence running a FFS in the 9th week of the ToT. There has been considerable discussion about how much time should be allocated to this preparatory period. Initially, the team thought that about 4-6 might be sufficient time for preparation. However, this preparatory period was later extended to eight weeks, based on in-depth discussions with ESP colleagues; acceptance of the assumption that the ToT candidates would have very limited or no direct farming experience (despite probably having degrees in agriculture or forestry); and further refinement of the ToT training topics, especially those related to nursery, training and facilitation skills. This extended period will provide participants with sufficient time to develop the technical (nursery) skills needed for the first part of the FFS they will deliver and time to learn and practice training skills, both of which are essential for being perceived by farmers as credible trainers.

An analysis of the knowledge and skills that farmers will require to both make their kebun more productive and start implementing 'conservation farming' or Landcare practices, suggests that 14 training sessions is probably the minimum amount of training required.[3] In brief, the FFS commences with improving nursery knowledge and skills and progresses to developing an understanding of the kebun AES and identifying the changes the farmer could initiate to increase production and protect and conserve ecological resources and environmental services. Again, the duration and training content of the FFS is an issue that will be explored and refined during the ToT. It is intended that participation in a FFS is the beginning of a process in which the farmer will participate, and the FFS will be followed by a series of field training and discussion workshops organised through an active network, supported in its earlier stages by ESP.
So as to complete a full 14 session FFS during the ToT, from the third session (3rd week) forward two training sessions will be conducted each week – it is proposed these will be held on Wednesday and Thursday mornings. This will allow the FFS to be completed in 8 weeks, and allow two weeks after the FFS has been completed to explore and consolidate the learning experience that the participants have engaged in.

In terms of the ToT schedule, all of each Wednesday and at least the morning of each Thursday from Week 9 to Week 16 have been allocated to conducting the FFS and the follow-up discussions and analysis by staff and participants that will immediately follow each session.

At the time of writing, the issue of when to commence the agroforestry ToT remains a critical and outstanding issue. In 2006 Puasa (Ramadan, the Fasting Month) occurs between 28th September and 25th October, Lebaran the major religious and family festival at the end of Puasa on 24-25th October. If the ToT were commenced by 15th May it would, in theory, be possible to complete the ToT before the beginning of Puasa, with about a week of spare time to allow for slippages. In practice, people consider the holiday season starts on about 20th October (this year) regardless of the official dates, and make every effort to get home

[3] Interim results of the continuing community-based agroforestry nursery pilot project in Aceh clearly show that while a FFS of 8 sessions over about two months is effective in providing farmers with basic the knowledge and skills necessary to improve the planting material that they use, it is insufficient to tackle the broader range of complex kebun management problems that farmers have to deal with.

by this date or soon after. After Lebaran it also takes several days before most people are ready to return to work, so this again extends the holiday period beyond the official dates. In all, for practical purposes the Puasa and Lebaran period may take up to 5-6 weeks during this year.

It is not considered that it will be possible to complete all the pre-ToT tasks in time for the ToT to start on 15th May – in particular: preparation, review/testing and revision of most of the Field Guides and Lesson Plans (critically, those needed for the first 4-6 weeks of the ToT); recruitment and orientation of new staff; completing negotiations with Local Government and BLPP for use of the training centre and field activities; completing negotiations with the surrounding villages (Desa ESP). See below 'Training Materials' for a more detailed discussion of this issue.

If it is not possible to complete all these tasks to the degree necessary prior to 15th May (or 22nd May), then an alternative is to delay the commencement of the ToT, use the time available for more thorough preparations, and commence the ToT in early-mid August, at least 8 weeks before the start of Puasa; a subsidiary alternative would be to commence at least 10 week prior to the start of Puasa, i.e. mid July and undertake more preparation prior to the ToT FFS starting. With either of these approaches, the ToT FFS would start immediately after Lebaran, and could be completed either by mid-January (with an mid-late August start) or immediately prior to Xmas (with an late July-early August start).

2.6. PATTERN OF IMPLEMENTATION

During the earlier part of the ToT, i.e. the first eight weeks, attention will focus on themes 1, 3 and 4 plus Regular Daily Field Work, so as to ready participants for preparing for and running the Farmer Field Schools, which they will be responsible for from Week 9 forwards. In the latter part of the curriculum the emphasis will shift towards themes 2 and 5, and more time will be allocated to Supporting Activities (themes 6 and 7) and the Small Team Activities noted below.

Prior to the ToT commencing ESP staff will make a quick survey of the villages and landscape surrounding the location; in Saree, Aceh – the likely location for the ToT - there are a number of villages already in various stages of engagement with ESP activities. The ESP team will then meet with community leaders, explain the goal and objectives of the ToT, and the potential role and benefits that participation in the ToT could have for their community members, especially dry land farming families.[4] (Signing a simple formal written agreement, between each community and the ESP ToT, is probably advisable.) Meetings will them be held with local dry land farmers, assuming that local leaders agree to participation in the ToT, and a group of about 25 farmers selected to participate in the ToT's Agroforestry FFS. These processes will need to be completed by about the time the ToT commences.

[4] It is assumed that some level of compensation will be required to cover the time farmers devote to attending the FFS and other activities, and for use of plots of land for studies and experiments.

2.7. AGROFORESTRY NURSERIES – THE ENTRY POINT

Recent work in Aceh funded by AusAID has shown that the agroforestry nursery (*pembibitan*) is a natural entry point for initiating work with dryland farmer groups. Additionally, reports from several ESP regions clearly indicates that there is both a substantial and unfulfilled demand for good quality seedlings of locally useful species (both fruit and timber), and a lack of access to the planting material and skills required to allow farmers to meet these needs themselves, either individually or as a member of a community group.

There are two further advantages in selecting the nursery as the entry point. First, this is the most appropriate context in which to provide farmers with training in selecting better quality seed and seed processing and storage techniques. Using higher quality planting material is a key element for increasing production quality and quantity and, hence, farmer's income. Second, the seedlings grown in the nursery during the training, using species and varieties selected by the farmers, will later provide the necessary planting material for the improvements farmers decide to make in their kebun; wide scale anecdotal evidence suggests that for many farmers good quality planting material is commonly difficult to obtain and/or relatively expensive.

2.8. *KEBUN* MANAGEMENT – A STEP TOWARDS WSM

Many if not most farmers are keen to learn better ways of managing their kebun. In some instances, farmers are well aware that their current practices are leading to land degradation and undermining their own longer-term welfare, but they do not have the necessary knowledge and skills to change their practices.[5] This makes training farmer groups, and hence the ToT participants, in practical means for analysing, understanding and planning changes in their kebun a natural extension of providing training in nursery management. In terms of farm family and community welfare, especially in locations where income from dryland farming is the major or sole source of income, assisting farmers achieve reliable increases in income from kebun production, via quantity and/or quality improvements, represents an approach that is likely to be both attractive to farmers and an effective starting point for improved WSM.

Kebun improvement is also the first step in acquiring agroecological knowledge necessary for local communities to play an active role in protecting and conserving local water resources. There is, both conceptually and in terms of scale, a natural progression in agroecological understanding from the farmer's kebun, to the hamlet/village (*kampung*/*desa*) to sub-watershed (*sub-DAS*) level that will be followed in the proposed curriculum and later during farmer training. At each of these levels scale and complexity increases. Hence, the kebun

[5] This double-edged awareness on the part of farmers was one of the most interesting (and concerning) results arising from the field studies conducted in six widely spaced locations as part of preparations for the Community-based Land Rehabilitation and Management (CLRM) Project in 2003.

also provides a natural entry point and a practical means for linking farmers and farmer's group to ESP's broader goals of watershed management and protection.

2.9. FACILITATION AND NETWORKING – BECOMING EFFECTIVE TRAINERS

This theme focuses on ToT participants gaining a thorough understanding of the philosophy, psychology and practice of adult education, and then provides them with the challenges and opportunities necessary to gain the interpersonal skills necessary for them to become effective practitioners.
Recent work with farmers in West Java showed that many farmers who are knowledgeable and skilled in agroforestry – from nurseries to planning and management – lack the skills necessary for them to be effective trainers. Once provided with an opportunity to gain these essential skills, their effectiveness as trainers, including, critically, their confidence in their own abilities, increases markedly. This is a small, but direct, illustration of the central importance of facilitation skills.

Shortly after commencing the ToT, participants, working in small groups of 5-6 people, will start being responsible for preparing and delivering an agroforestry nursery FFS to farmers from villages adjacent to the ToT; each of the groups will be supported an experienced trainer plus a local farmer. This process will provide them with an extended opportunity to hone their newly learnt training skills, and progressively help them become more competent in applying the technical knowledge and manual dexterity necessary to illustrate and discuss a wide range of nursery operations.

2.10. FIELD SCHOOL MANAGEMENT – MAKING IT WORK

This theme addresses the two main elements involved in conducting a successful Agroforestry FFS, and then ensuring the success endures through skillful follow-up planning and activities. The first two parts of this theme focus on preparing for and running the FFS, from surveying the village, conducting preparatory meetings and selecting the participants, through to conducting and documenting the FFS, preparing for a Field Day, the last part on and planning follow-up activities. In practical terms, the final activities of the formal FFS are the 'bridge' to farmers joining an expanding network of practitioners, actively linked through ongoing workshops and collectively initiated and implemented learning and support activities.

Once the ToT participants graduate one of their main tasks will be organising, delivering and following-up on Agroforestry FFS. It is anticipated that after graduation they will work in pairs for at least the first round of FFS. Hence, it is essential they **understand and practice** all the steps involved in the process, and also learn first hand about the likely problems they may encounter and how to overcome them. The skills to be learnt are an important complement to those learnt in facilitation (above), and extend these to include learning how to become effective managers and administrators (including transparent financial planning and accounting) in a broad range of social settings in which they are likely

to be the 'outsider', where local customs and expectations differ, and in which local social and political pressures may be a significant.

One of the more subtle tasks is to learn to identify and encourage those participants in the FFS who show an interest in and aptitude for helping their fellow farmers learn new knowledge and skills. These are farmers who are potential candidates for further training so as to become 'Farmer Trainers' (*Petani Pemandu*). Experience shows that identifying, training and supporting such farmers is the key means for rapidly expanding the number of farmers (and hence communities) who have access to the benefits that flow from participating in an FFS. These Farmer Trainers also usually become key members in the active network linking groups together and deepening members knowledge and skills. Such networks also play a critical role in ensuring the quality of the training process, and maintaining enthusiasm and commitment.

2.11. AES AND WSM – FROM KEBUN TO KAMPUNG

The process of AES analysis, started as part of kebun management, is expanded through this theme beyond the kebun to the hamlet and village level. Kebun in villages adjacent to the ToT will be used as a venue to learn basic mapping skills, and apply these to mapping the vegetation and other components of the AES, as the first step in making an analysis of the important relationships between these components, e.g. between light, soil, water, plants, litter, worms, livestock, fish - and their linkages to kebun production, management and improvement.

This process leads to learning about the criteria and factors that can be used as indicators of the quality and health of the landscape, i.e. differentiating between good, vulnerable and degraded land, and from this to exploration of the alternatives available for rehabilitation (LandCare or *Bumi Lestari*). Methods for estimating community production and demand for wood products (including bamboo) will be followed by an exploration of water ecology (including pollution) and means for conserving water resources. The final parts of this theme will introduce the participants to the legal and policy framework for WSM, and the potential for conflicts between traditional, local customs and rules and the modern legal system. The theme will end with topics covering economic, social and ethnic issues, the potential for NTFP, and the role of the multi-stakeholder WSM Forum.

2.12. SUPPORTING AND LINKING ACTIVITIES

The training approaches and methods to be used for the two following support themes of the ToT differ in some ways from those for the major themes. The norming of good health and hygiene and good management practices will be implemented through small teams of ToT participants, mentored and monitored by ToT staff; responsibility for each of the activities will be rotated between these groups every two to three week.

Norming Good Practices in Health and Hygiene – improving sanitation and environmental cleanliness; healthy drinking water; waste management; hand washing using

soap. As noted this will be implemented using a learning-by-doing approach by small teams, whose main responsibilities will be ensuring that good H&H practices are followed by all ToT participants and staff. Every three weeks the team will change, so ensuring that all ToT participants have direct hands-on experience and responsibility for managing good H&H practices for a large group of people.

Norming Good Management Practices – The theme SL Management will provide the ToT participants with training on the planning, implementation and follow-up aspects of running a field school. The preferred attitudes and necessary skills will be learnt through playing an active role in the day-to-day management of the Agroforestry ToT and during the process of implementing an Agroforestry FFS during the ToT.

2.13. SMALL TEAM ACTIVITIES

There are seven topics that will be handled by small working teams of ToT participants, supported and mentored by ToT staff; these include the two Linking and Supporting Themes. The skills involved in performing each of these activities are directly linked to the types of tasks and responsibilities the participants will undertake when they have graduated from the ToT.
As, for example, with norming good H&H practices, each of these activities – all of which are essential for the smooth and effective running of the ToT – will be the responsibility of teams made up of three ToT participants, each team will be responsible for the specific tasks for two to three weeks and then hand over responsibility to another team. The ToT staff will be assigned responsibility for mentoring and monitoring the performance of the teams.

The small team activities include:

- **Health and Hygiene** (*Kesehatan dan Kebersihan*): this team will be responsible for the day-to-day practical application (i.e. norming) by all ToT participants of good H&H practices within the whole ToT environment. The goals are to actively educate and stimulate ToT participants to positively change their own behaviour, and provide them with practically-orientated knowledge and skills so they are capable of being effective public health observers. In the broader context of ESP, it is intended that they be able to act as the 'eyes and ears' for the H&H component, both reporting issues they observe in participating communities that the H&H specialists need to address and, where appropriate, providing guidance to address a local H&H issue.
- **Accommodation and Catering** (*Akomodasi dan Konsumsi*): This team will be responsible for ensuring that all aspects of accommodation (power, cleanliness, laundry, bed linen, etc.) are operating smoothly; with regard to catering they will be responsible for ensuring that the quality, quantity and variety of the food provided is healthy, safe and adequate. They will be the first point of contact for any ToT participants who have suggestions or complaints.
- **ToT Ethics including Gender** (*Kode Etik ToT - termasuk Gender*): This team will be responsible for ensure that candidates know, understand and observe the ethical rules essential for being a successful trainer (*pemandu*) and be a point of contact if a ToT participant feels their rights have been breeched or slighted. Special attention will be directed to ensuring the women's rights are observed and respected.

- **Media and Outreach** (*Media dan Outreach*): Parts of the Facilitating and Networking and Managing SL themes covers basic writing, documentation and reporting skills. This group will be responsible for ensuring that all participants are kept up-to-date about coming events, e.g. using notice boards, and, with permission, also erect notice boards in the adjacent villages and use these to provide information on ToT activities that may be of interest to or affect members of these villages. It may be possible to print a ToT news sheet every 2-4 weeks, and it is proposed that a media advisor be among the resource persons who provide period inputs.
- **Field Trips and Recreation** (*Kunjungan Lapangan dan Rekreasi*): This group will have responsibility for ensuring that preparations for and the logistics (e.g. maps, food, drink) needed for successful weekly field trips are in organised well in advance. For instance, they will negotiate details of visits, after initial contact has been established by ToT staff; they will also be responsible for organising sport and other recreation activities for ToT staff and participants, including, possible, members of adjacent villages.
- **Equipment and Materials** (*Peralatan dan Barang*): This group will work with the stores officer to ensure that all ToT participants and activities have the equipment and materials they need and receive them on time. This includes liaising with ToT staff to ensure materials are available for indoor and field training sessions. They will maintain a running log of equipment loans and returns. They will also be responsible for ensuring that equipment needing repair is attended to, either by fixing it themselves or arranging for external repair.
- **Documentation and Scheduling** (*Dokumentasi dan Jaga Waktu*): This group will be responsible for ensuring that teaching aids and materials (e.g. printed materials, videos, attendance records, etc.) are available as needed and documentation of course activities is complete and kept up-to-date. They will also act as the coordination point for all inter-team and inter-village activities, and those that require access to common resources (vehicles, GPS, etc.). For whole group activities they will need to liaise with the Field Trips and Media groups to ensure activities are appropriately documented. They will also have responsibility as time keepers, to ensure that teaching sessions start and finish on time and that ToT participants are punctual.

3. AGROFORESTRY TOT - IMPLEMENTATION AND MANAGEMENT

3.1. INTRODUCTION

This section sets out the proposed organisational structure and operational arrangements for implementing the Agroforestry ToT. It assumes that all preparatory activities have been successfully concluded prior to the ToT commencing, e.g. site selection and preparation, negotiations with local communities, candidate selection, materials preparation, transport and communication arrangements.

3.2. STAFFING

The ToT will be headed by an experienced Master Trainer, who will be supported by a similarly experienced Deputy. The day-to-day training activities will be guided and implemented by a team of 5-6 experienced trainers (PL II), who will be complemented by the same number of locally engaged farmers.

The teaching staff of the ToT will be supported by a small administrative staff (e.g. office manager, accountant, stores manager, drivers). In addition, the participants in the ToT will be required to play an active role in managing many aspects of the day-to-day operations of the ToT.

3.3. TOT– DAILY AND WEEKLY SCHEDULE OF ACTIVITIES

The ToT will have a closely planned and demanding schedule of activities, in indoor settings, within the grounds of the ToT facilities, in neighboring villages and more broadly with Field Trips in the region. The proposed pattern of activities is specified in the spreadsheet entitled "ToT Curriculum – Daily Schedule". The general daily and weekly pattern is illustrated in the table below.

3.3.1. CLASS WORK SESSIONS 1-5, MONDAY TO FRIDAY

In the scheduled classes 1-5 each day from Monday to Friday, participants will be involved in:

- formal whole group discussions, activities and presentations;
- small group work within the classroom context;

- whole and small group work within the ToT environment and local villages;
- extended small group work in the neighbouring 'ESP Villages'

As noted in the Daily Schedule, the shorthand 'FE' (for Field Exercise) indicates that part of the period will be used to undertake activities outside the classroom, either in the ToT environment or a local village setting.

3.3.2. WEEKLY MEETINGS (*RAPAT MINGGUAN*)

There will be regular Monday morning meetings, following Field Trip Analysis, for all participants in the ToT. At this meeting the activities planned for the coming week will be explained and discussed. ToT participants will also be able to ask questions and raise issues they consider require general discussion or resolution. Analysis and discussion of the previous Saturday's field trip will be one of the topics for each Monday morning. meeting

3.3.3. FIELD WORK (KERJA LAPANGAN)

This will be a regular activity each morning and afternoon, with the exception of Saturday afternoon and Sunday morning, it is discussed in more detail below.

3.3.4. FIELD TRIPS (KUNJUNGAN LAPANGAN)

These will occur each Saturday and last from after breakfast until early afternoon. The destination and activities to be undertaken will be chosen so as to coincide (as much as possible) with the range of topics in the preceding or following week.

3.4. REGULAR DAILY FIELD WORK

Regular daily field work by participants is regarded as a critical element of the overall ToT design and curriculum. During this time the ToT participants will be required to attain a high level of practical proficiency in all tasks associated with operating an agroforestry nursery. The field work is also a major means for ensuring that participants quickly reach a higher level of physical fitness and increase their stamina.

Each small team (5-6 participants) will be supported and assisted by an experienced Field Leader (PL II) and guided by a local farmer, selected for his in-depth knowledge of nursery and kebun techniques, and employed to provide the participants with direct access to methods, skills and techniques commonly used by farmers.

Morning and Afternoon Field Work – each day will start and end with ToT participants working in small groups to establish and operate agroforestry nurseries, as a direct means for learning essential manual skills and the dexterity that are required for all forms of grafting, nurturing seedlings and plants, and making and using organic potting media and composts.
In the earlier weeks of the ToT attention will be focused on establishing and operating nurseries within the grounds of the ToT. Each team will be responsible for establishing and operating its own nursery. As these nurseries become operational and their familiarity with the nearby village (Desa ESP) to which they have been assigned increases, attention will shift to starting to learn more about the AES of the local kebun and the landscape in which they are situated.

These nurseries and the grounds of the ToT will be the venue for many of the studies and experiments that will be undertaken by ToT participants. At the end of the ToT the plants grown in the nurseries will be planted out in the grounds of the ToT and also in the local communities, as appropriate, during the field day.

3.5. AGROFORESTRY FARMER FIELD SCHOOLS

The most extended and critical activity during the ToT will be the Farmer Field School, which will run from Weeks 8 to 16. Each of the small teams of ToT candidates – the number of teams and the number of members in each team will depend on the total number of ToT participants, but is expected to be 5-6 teams, each with 5-6 members – will be assigned to one of the neighboring '*Desa ESP*'. This community will be the locus of many of their field exercises and for the FFS each team will be responsible for conducting. The members of the small teams are expected to become thoroughly familiar with the members of the community and its environment, with a special focus on the agroforestry (*kebun*) livelihood activities of the farm families in the village.

ToT– Daily and Weekly Schedule of Activities

Time	Activity	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
0630-0800	Field Work	Field Work	Field Work	Field Work	Field Work	Field Work	Field Work	Rest Period
0800-0900	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Rest Period
0900-1000	Session 1	Rapat Mingguan					Field Trip	Rest Period
1000-1100	Session 2						Field Trip	Rest Period
1110-1115	Break	Break	Break	Break	Break	Break	Field Trip	Rest Period
1115-1215	Session 3						Field Trip	Rest Period
1215-1330	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Field Trip	Rest Period
1330-1430	Session 4						Field Trip	Rest Period
1430-1445	Break	Break	Break	Break	Break	Break	Field Trip	Rest Period
1445-1545	Session 5						Field Trip	Rest Period
1545-1645	Field Work	Field Work	Field Work	Field Work	Field Work	Field Work	Rest Period	Field Work
1645-1715	Break	Break	Break	Break	Break	Break	Field Trip	Rest Period
1715-1830	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Rest Period	Dinner
1830-2130	Home Work	Home Work	Home Work	Home Work	Home Work	Home Work	Rest Period	Rest Period

In designing the ToT curriculum it was assumed that all the preliminary processes needed for the village community to agree to participate in the ESP ToT, i.e. to become a 'Desa ESP' have been completed. Among these it is anticipated that there will need to be specific and formal agreements concluded about the amount of compensation the farmers who agree to participate in the FFS will receive, and the potential ownership of planting materials provided by ESP and planted out on community or state owned land. The ToT participants will, however, need to be fully engaged in the process of identifying and selecting farmers from the villages who will be participating in the agroforestry ToT FFS.

The proposed schedule of the FFS to be conducted during the ToT is illustrated in the diagram below. This assumes that there will be two session each week from the 3rd to the 8th week of the FFS. As noted, this level of intensity is required to allow the FFS to be completed during the ToT. During later implementation by the ToT graduates it is expected that the FFS will be conducted as series of about 14 weekly half-day sessions over about three months. That is, it expected that after graduation each pair of ToT graduates will conduct four FFS in parallel. The detailed content of the agroforestry FFS will be developed during the first two months of the ToT.

Proposed Schedule for ToT Agroforestry Field Farmer School

Pre-Field School Tasks		Week 1	Week 2	Week 3		Week 4	
	Session	1	2	3	4	5	6
Village Identified	**Main Topic**	Nursery	Nursery	AES Kebun Map Main Interations	AES Kebun Map Main Interactions	AES Kebun Map Main Interations	AES Discussion Map & interactions
Meeting with village leaders completed		kb/kk	kk	kb/kk	kb/kk	kk	kb
Aims & methods of field school presented to interested farmers	**Minor/Spc.Topics**	Field School Plan Learning Contract	AES Basics	Nursery Skills	Nursery Skills	Nursery Skills	Nursery Skills
Potential farmer participants interviewed	**Special Topics**	Soil Ecology	Seed Selection	Plant Physiology	Pests & Diseases	Kebun Economy	Kebun Agronomy
Participants confirmed	**Group Dynamics**	X	X	X	X	X	X

	Week 5		Week 6		Week 7		Week 8	
Session	7	8	9	10	11	12	13	14
Main Topic	AES & Economy (SWOT)	AES & Economy (SWOT)	Kebun Dev't Plan Preparation	Kebun Dev't Plan Discussion	Kebun Dev't Plan Revision	Kebun Dev't Plan Discussion	Follow-up Planning	Field Day
	kb/kk	kk	kk	kb	kb	kb	kb	kb
Minor/Spc.Topics	ST Menu	ST Menu	ST Menu	ST Menu	ST Menu	ST Menu	Field Day	Planting Out in Villlage
Special Topics	ST Menu	ST Menu	ST Menu	ST Menu	ST Menu	ST Menu		
Group Dynamics	X	X	X	X	X	X	X	

AES= Agroecosystem kb = whole group kk = small group ST Menu = Special Topics Menu

4. AGROFORESTRY TOT – TRAINING MATERIALS

4.1. INTRODUCTION

Having identified the wide range of topics required for the Agroforestry ToT, the team specified the goal, objectives and linkages for each of these topics. In this section the steps required for preparing the training materials are described. It needs to be noted that the range and complexity of the training materials required is substantial, and identifying suitable and available experts for undertaking this work is likely to be quite challenging. It is envisaged that current members of the ESP regional teams will make substantial contributions to preparing the training materials, according to their expertise and availability. However, as discussed below, it is also considered that additional expertise from outside ESP will be essential.

Of the five main themes in the ToT, preparing training materials for three themes (Nursery and Planting, Kebun Management, AES & WSM) will be the most challenging and time consuming; in addition, time will also be required to at least rough out the detailed structure and technical content of the FFS training materials (on the assumption it can be completed during the earlier part of the ToT). Preparing (reorienting) existing training materials for two themes (Facilitation and Networking, FFS Management) will require less time.

The curriculum team is well aware that ESP is keen to commence the agroforestry ToT as soon as possible. The team has intensively discussed the alternative means available for achieving this goal. *The team has concluded that it is not advisable to commence the ToT before all or almost all of the training materials are ready to be used.* The option of preparing materials for only the first 6 weeks, say, of the ToT was explicitly considered by the team. It was rejected, as it is considered very likely that many of the members of the team responsible for preparing and reviewing the training materials will be the members of ToT training team. In the judgment of the curriculum team, they cannot fulfill both tasks at the same time, i.e. during implementation of the ToT.

It is anticipated that preparation and review and revision of the materials be undertaken of a team composed of about 10 people, most of whom have other responsibilities and would only be able to work part-time. They would work in parallel preparing material on the topics included under each of the five main themes of the ToT; plus preliminary work on the content of the FFS. A number of ESP staff do have technical knowledge of important aspects of agroforestry, but, in brief, it is judged by the curriculum team that, collectively, they do not have the full range of expertise required to prepare all the materials for the ToT. Hence, it will be essential to identify and hire technical experts with additional agroforestry expertise from outside ESP.

ESP management considers it important that someone with an overall vision of the current and potential role of agroforestry in Indonesia (e.g. its role in WSM, biodiversity protection,

rural socioeconomic development and environmental protection) and with in-depth practical technical expertise of agroforestry *as it is practiced by farmers*, be a member of the team. The curriculum team fully supports this perspective, but notes that such people are usually extremely busy and difficult to hire at short notice.

It is vitally important that the trainers are fully familiar and confident and comfortable with the training materials they will be using. In this instance it is proposed that the review team be composed of the training team who will be responsible for using the materials in the ToT. They would work in parallel with the technical team (but probably part-time) and review (and field trial as necessary) materials as they became available, confirming that the material is ready to be used or returning them to the technical team with comments and suggestions for revision.

4.2. TOT THEMES AND SUB-THEMES

The full listing of ToT training topics is presented in Annex 2. There are 7 themes, 45 sub-themes and 162 training topics. Because of the large amount of material involved it is difficult to present this in an easily readable form on paper. Hence, a spreadsheet which provides (i) details on each theme, sub-theme and training topic and (ii) the complete training daily and weekly schedule for the proposed 18 week ToT, is the most feasible means of presenting this information. This is provided on an accompanying CD; this CD also contains draft outline Lesson Plans and a list of Field Guides that need to be prepared. The following table lists all the themes and sub-themes required for the agroforestry ToT curriculum.

4.3. PRELIMINARY LESSON PLANS AND FIELD GUIDES

In the Field School (discovery learning) approach there is a close, critical intellectual, stylistic and practical link between the Lesson Plans and the Field Guides. Hence, these two types of documents need to be prepared in parallel, ideally by the same team of people. To ensure that the materials are ready for use they also need to be carefully reviewed - for consistency of content, linkages to material prepared for related topics and, particularly, in terms of the practical application of the fieldwork experiments and studies that are an integral part of such materials. It is anticipated that in many (hopefully, most) instances a review and minor revisions will be all that is required. However, it is also anticipated that there will be a proportion of topics for which a review followed by a field trial, followed by revisions will be required; and other cases (hopefully, only a small number of topics) further field trials and revisions may also be necessary.

For the 162 training topics identified preliminary Lesson Plans have been prepared, to the level of defining the goal and objectives for each topic. Much more work remains to be done to complete each of these lesson plans, including identifying the specific Resources, Methods and Time for each of the lesson elements for each topic: Introduction, Description and Conclusions. The partially completed Lesson Plans follow a standard format, this will allow each of them to be completed as a stand-alone document, closely linked to a Field Guide.

Lesson Plans. An example of a lesson plan for the ToT is provided below, and a more complete listing of partially completed lesson plans, which runs to over 100 pages, can be found on the accompanying CD.

Field Guides. There are a total of some 41 Field Guides (*Petunjuk Lapangan*) that have been identified and will need to be prepared; it is likely that additional topics for Field Guides will be identified before or during the ToT. Most of these guides are fairly short documents. A listing of the topics for which Field Guides are needed is provided below and a sample Field Guide can be found in Annex 5.

Agroforestry ToT Curriculum – Themes and Sub-Themes

Code	Tema & Sub-Tema	Theme & Sub-Theme
1	**Pembibitan & Penanaman**	**Nursery & Planting**
1.1	Persiapan Pembibitan	Seed Preparation
1.2	Teknik Perbanyakan	Propagation Techniques
1.3	Pengelolaan Benih & Bibit	Seed and Nursery Management
1.4	Pengendalian Hama dan Penyakit Penting	Main Pests and Diseases
1.5	Biologi Tanaman	Plant Biology
1.6	Ekologi Tanah & Pengelolaan Bahan Organis	Soil Ecology and Organic Matter
1.7	Persiapan & Penanaman	Preparation and Planting Out
2	**Pengelolaan Kebun**	**Kebun Management**
2.1	Analisis Kebun	Kebun Analysis
2.2	Sistem Pengelolaan Kebun	Kebun Management System
2.3	Analisis Agroekosistem	Agroecosystem Analysis
2.4	Perencanaan Perbaikan Kebun	Planning to Improve Kebun Management
2.5	Pengelolaan Lahan & Tanah	Soil and Land Management
2.6	Teknik Pemeliharan Kebun	Kebun Maintenance
2.7	Pengendalian Hama dan Penyakit Tumbuhan	Pest and Diseases Management
2.8	Ekonomi & Pasaran Kebun	Economics of Kebun and Marketing
3	**Facilitation & Networking**	**Facilitation & Networking**
3.1	Konsep Pelatihan	Training Philosophy and Concepts
3.2	Metodologi Pelatihan Partisipatif	Participatory Training Methodology
3.3	Kerjasama	Teamwork
3.4	Kreativitas	Creativity
3.5	Komunikasi	Communication
3.6	Pengorganisasian Masyarakat	Community Organising
3.7	M&E Proses & Pelatihan	M & E of Training Process
3.8	Menyelesaikan Konflik	Conflict Resolution
3.9	Memfasilitasi Studi Petani	Facilitating Farmer's Study
3.10	Dinamika Kelompok	Group Dynamics

Code	Tema & Sub-Tema	Theme & Sub-Theme
4	**Manajemen Sekolah Lapangan**	**Farmer Field School Management**
4.1	Kegiatan Pra-SL	Pre-Field School
4.2.	Kegiatan Selama SL	During-Field School
4.3	Kegiatan Setelah SL	Post-Field School
5	**AES & WSM**	**AES & WSM**
5.1	Pemetaan	Mapping
5.2	Bumi Lestari (LandCare)	Land Care
5.3	Hak Pengelolaan Lahan	Land Tenure
5.4	Ekonomi,Sosial & Ethnis	Economy, Social and Ethnic Issues
5.5	Sistem Daur Air	Water Cycle
5.6	Teknik Konservasi SD Air	Water Resource Conservation
5.7	Hukum & Kebijakan SDA	Law and Policy of Natural Resources
6	**Field Work - AM & PM**	**Field Work - AM & PM**
6.1	Persiapan Lahan Pembibitan	Preparation of Nursery site
6.2	Seleksi & Penyiapan Benih & Bibit	Selection and Preparation of Seeds and Nursery
6.3	Pemeliharaan Bibit	Nursery Maintenance
6.4	Perbanyakan Bibit	Seedling Multiplication
6.5	Pembuatan kompos	Composting
6.6	Penanaman	Planting Out
6.7	Pemeliharaan Tanaman Kebun	Kebun Maintenance
6.8	Koleksi Benih	Seeds Collection
7	**Norming Good Health & Hygiene**	**Norming Good Health & Hygiene**
7.1	Pengantar Norming H&H	Introduction of Norming H&H
7.2	Perbaikan Sanitasi & Lingkungan	Improving Sanitation and Living Environment
7.3	Air Minum Sehat	Healthy Drinking Water
7.4	Pengelolaan Sampah	Solid Waste Management
7.5	Cuci Tangan dg Sabun, dll	Handwashing with soap practices, etc.
8	**Norming Good Management**	**Norming Good Management**
8.1	Perencanaan	Planning
8.2	Pelaksanaan	Executing
8.3	Field Day	Field Day
8.4	Evaluasi	Evaluation
8.5	Dokumentasi & Pelaporan	Documentation & Reporting

Sample Lesson Plan for Agroforestry ToT

Topic 3.1.1 – Identification of Essential Trainer Skills – Lesson Plan

Title:	**Identification of Essential Skills for Trainers**	Code:	3.1.1
Location:	Class Room		
Duration:	2 x 1 hour		
Goal:	To learn several fundamental training skills		
Objectives:	• Participants able to identify their own potential as trainers, from different aspects such as: general basic skills, capacity to analyze, inter-personal skills, problem solving, capacity to implement, and monitoring and evaluation . • Participants are able to practice the roles and functions of trainers as mentors and participants, as well as be skilled observers of the training process. • Participants are able to understand the meaning and function of feedback in the training process.		
Linkages:	• 3.1.2 Basic attitude of Trainers • 4.2.2 – 4.2.4 Facilitating Field Schools		

Key points		**Resources**	**Method**	**Time**
Description:	• Short explanation of the objective and lesson topics	-	Big group	5 minutes
	• Each participant fills in a questionnaire on "List of Essential Skills" for Trainers	Questionnaire on "List of Essential Skills" for Trainers	Individual work	30 minutes
	• Participants are divided into small groups, three people per group. They take turns acting as "client", "consultant" and "observer."	• Questionnaire on "List of Essential Skills" for Trainers. • Observation Form.	Small group	1 hour
	• Discuss participants' experiences with role playing as client, consultant and observer.	-	Brain-storming Big group	25 minutes
Conclusion:	• Current level of essential trainer skills of the participants. • Function and role of trainers as mentor, participant or observer. • Meaning and use of feedback in the training process; attitude of trainers in providing and receiving feedback.			

Preliminary Listing of Field Guides Required

Code	Topic	Code	Topic
1	**Pembibitan & Penanaman**	**2.6**	**Teknik Pemeliharan Kebun**
1.1.1	Perlakuan & Penyiapan Media Tumbuh (test pH)	2.6.1	Penjarangan & Pemangkasan Tanaman
		2.6.2	Analisis Gejala Defisiensi
1.3	**Pengelolaan Benih & Bibit**	2.6.3	Metode Perbaikan Kesuburan Tanah
1.3.1	Identifikasi Sumber Benih Sehat	2.6.4	Sistem Pengelolaan Air di Kebun
1.3.2	Teknik Koleksi & Seleksi Benih & Mata Tempel	2.6.5	Penyulaman & Pembumbunan Tanaman
1.3.3	Perlakuan Benih & Mata Tempel	**4.2**	**Kegiatan Selama SL**
1.3.4	Uji Mutu Benih & Perkecambahan	4.2.5	Persiapan Hari Lapangan/Field Day
1.4	**Pengendalian Hama dan Penyakit Penting**	**5.2**	**Bumi Lestari (LandCare)**
1.4.1	Analisa Gejala & Penyebab Kerusakan	5.5.2	Melakukan Analisis Kondisi Lahan Kebun
1.4.2	Metode Pengendalian		
		5.4	**Kebutuhan & Produksi Kayu**
1.5	**Biologi Tanaman**	5.4.1	Analisis Kebutuhan Kayu Penduduk
1.5.1	Fisiologi Benih & Bibit	5.4.2	Analisis Produksi Kayu Penduduk
1.5.2	Fisiologi Tanaman Pohon		
1.5.3	Fisiologi Tanaman Rumput	**5.5**	**Sistem Daur Air**
1.5.4	Fisiologi Tanaman Musiman	5.5.2	Analisis Peran Ekosistem & Pengelolaan SD Air
1.6	**Ekologi Tanah & Pengelolaan tanah**	**5.6**	**Teknik Konservasi SD Air**
1.6.1	Ekologi Tanah (living soil principles)	5.6.2	Metode Sipil Teknis
1.6.2	Pengantar Kompos & Pupuk Organik	5.6.3	Metode Vegetasi
2.5.6	Fungsi Seresah & Cacing Tanah	5.6.4	Metode Daur Ulang Air
2.5.7	Mulsa Organis		
1.6.x	Soil Water-Holding Capacity	**5.7**	**Hukum & Kebijakan SDA**
1.7	Persiapan & Penanaman Bibit	5.7.2	Kearifan Lokal Pengelolaan SDA
		5.7.3	Konflik antara Kearifan Lokal & Hukum Modern
2.2	**Sistem Pengelolaan Kebun**		
2.2.2	Tata Letak Tanaman	**5.8**	**Ekonomi, Sosial & Etnis**
2.2.3	Kesesuaian Ekologi Kombinasi Pohon & Tanaman	5.8.2	Identifikasi Produk Non-Kayu pada Areal WSM
2.3	**Analisis Agroekosistem**	**7.1**	**Pengantar Norming H&H**
2.3.5	Keragaman Hayati Kebun	7.1.1	Analisis Isu H & H
2.5	**Pengelolaan Lahan & Tanah**		
2.5.2	Erosi & Sedimentasi Tanah		
2.5.4	Pemilihan & Teknik Konservasi		
2.5.5	Porositas & Koloid Tanah		

5. ESP AGROFORESTRY - POST-TOT ACTIVITIES

There are a wide range of post-ToT activities, in addition to conducting agroforestry FFS, that are considered essential if the substantial investment in the Agroforestry ToT are to be fully effective. It is accepted that the scale, hence cost, of these activities may need to be adjusted to fit within a predetermined budget envelope. These activities and preliminary estimates of their costs are discussed below.

5.1. FARMER FIELD SCHOOLS

It is proposed that there be two types of agroforestry FFS – those conducted by the agroforestry ToT graduates (ESP Trainers or *ESP Pemandu*) and those conducted by Farmer Trainers (FFS Farmer Trainers or *Petani Pemandu*).

For the FFS conducted by the ESP Trainers, it is proposed that they work in pairs for the first cycle and each pair of trainers would conduct 4 FFS during the first cycle. Hence there would be 8 FFS completed during the first cycle (approximately 6 months). It is assumed that 2 farmers from each of these FFS will be selected and complete training before the next cycle of agroforestry commences. During the second cycle the ESP Trainers – no longer supported by the PL II – devote about half their time to independently (i.e. working alone) conducting FFS and the remainder of their time providing mentoring and support to the newly graduated Farmer Trainers.

In the first cycle each pair of ESP Trainers would conduct 4 FFS in their province, and each province will have at least 4 ESP Trainers, i.e. a total of 8 FFS per province. In these FFS they would train approximately 200 farmers in the first cycle. Overall, this would amount to some 1,200 farmers trained by ESP during the first cycle.
In the second cycle, assuming that (i) each of the 4 ESP Trainers (who now have one season of experience) each conducts 2 FFS (total 8 FFS) and (ii) the 16 Farmers Trainers working in pairs each conduct 2 FFS (total 16 FFS) – a total of 24 FFS or roughly 600 farmers would be trained per province, i.e. some overall ESP would train some 3,600 farmers in the second cycle

In total, *during the first two cycles or approximately one year after graduation, the ESP and Farmer trainers between them could train approximately 4,800 farmers*.

5.2. POST-TOT FIELD-LEVEL FOLLOW-UP AND SUPPORT ACTIVITIES

Extended experience from the thousands of FFS that have been conducted in Indonesia and elsewhere shows that in the initial 3-4 weeks of conducting an FFS the trainer often encounters professional difficulties – e.g. difficulty responding to questions and issues raised by the farmers, unfamiliar and confusing types of AES, and often a temporary loss of confidence. It is critical when this occurs that support is immediately available and the trainer is mentored professionally and supported personally.
It is proposed that for the first cycle of FFS after the agroforestry ToT is completed that the graduates be mentored and supported by the PL II who have been working with them during the ToT – thus extending the professional and personal relationship into the field. Each of the PL II would be responsible for one ESP province, and their activity would be coordinated, supervised and monitored by the PL I – one for Sumatera and one for Jawa.

5.3. TOT FOR FARMER TRAINERS

Farmer Trainers are the key to the rapid, and relatively inexpensive, expansion of ESP agroforestry training capacity. In the first instance it is proposed that they participate in a two week long residential ToT. These ToT would be organised and conducted by the ESP Farmer Trainers, supported if possible by the PL II who has provided mentoring and support during the first FFS cycle. It is anticipated that each province will identify at least 16 potential farmer trainers during the first FFS cycle; it is possible that more candidates might be identified and included.
There are two options for organising the proposed Farmer Trainers ToT: (i) each province would conduct its own ToT, or (ii) one ToT would for all the potential farmer trainers would be conducted in Jawa and a second conducted in Sumatera. The first option has the advantage of making for more intensive training, as numbers would be limited, and contributing to local team building. Travel and other costs would also be lower than using an island-wide approach.

5.4. ACTIVE NETWORKING

The concept of active networking has already been discussed previously – a ESP Trainers Network and a Farmer Trainers Network. This would be an effective complement to the mentoring and support proposed to be provided during the first cycle of FFS (about 6 months) and the two working together would contribute to strengthening the technical, professional and organisation basis for ESP's agroforestry work

6. ESP AGROFORESTRY– PRELIMINARY BUDGET ESTIMATES

A preliminary budget for the agroforestry ToT and follow-on activities has been prepared. The estimates are based on assumed costs that it has not been possible to fully test. The overall cost for some of the items in the budget is quite sensitive to small differences in estimated unit costs, especially where the unit costs are multiplied by large factors, e.g. the number of ToT participants or number of FFS.

6.1. PRELIMINARY BUDGET ESTIMATES FOR THE AGROFORESTRY TOT

The preliminary budget estimate for the agroforestry ToT is approximately USD 513,000 (IDR 4.72 billion). A breakdown to the category level is presented in the table below and the item-by-item estimates can be found in Annex 3.

Preliminary Budget Estimate

Category	Sub-Total	%/USD
ToT Staff Salaries	1,470,500,000	32%
Support Staff Salaries	155,000,000	3%
Peserta ToT	675,000,000	14%
Insurance Premium	70,500,000	1%
Air Travel	285,000,000	6%
Weekly Field Trips	148,800,000	3%
Transportation	330,000,000	7%
Field Day	75,000,000	2%
Accommodation & Board	710,000,000	15%
Equipment & Materials	708,750,000	15%
ToT Farmer Field Schools	86,600,000	2%
Total	**4,665,150,000**	**512,216**

6.2. FARMER FIELD SCHOOLS

It is proposed that there be two types of agroforestry FFS – those conducted by the agroforestry ToT graduates (ESP Trainers or *ESP Pemandu*) and those conducted by Farmer Trainers (FFS Farmer Trainers or *Petani Pemandu*). The base costs of the two types of FFS are identical, except the cost of the FFS conducted by the ESP Trainer does not include the cost of the ESP Trainer's salaries and benefits, whereas the budget for the FFS conducted by the Farmer Trainer includes an honourarium and other costs for the Farmer Trainer.
The preliminary estimates are made on a per province basis for the first season or cycle of agroforestry FFS.

ESP Trainers – Cost per FFS. The base costs of the FFS is estimated as about USD 1,600 (approx. IDR 14.8 million) for a 14 session field school (the detailed budget can be found in Annex 3).

This cost is sensitive to the amount budgets for 'snacks' and 'compensation petani FFS'. Budget provision for these items are considered both culturally and economically vital – especially the latter, as most farmers cannot afford to spend half a day without earning an income and there is ample evidence that concern about 'missing' income is liable to distract them during the training.

Farmer Trainers – Cost per FFS. These FFS are estimated to cost USD 1,950 (IDR 18 million) - this estimate includes the base cost (USD 1,600) plus an allowance for an honourarium for the Farmer Trainer's honourarium and transport costs.

6.3. POST-TOT FOLLOW-UP AND SUPPORT ACTIVITIES (6 ESP PROVINCES)

The estimated overall cost for the first year's post-ToT follow-up and support activities for all 6 ESP provinces is about USD 120,500 (IDR 1.1 billion) - full details in Annex 3. This includes all costs for the wages and operational costs of eight Pemandu (2 x PL I and 6 x PL II) for five months post-ToT. One PL II would be assigned to each ESP provinces and provide support for the newly graduated ESP Pemandu; the PL IIs' activities would be coordinated, supervised and monitored by one ESP PL I each for Jawa and Sumatera.

6.4. TOT FOR FARMER TRAINERS

The ToT for Farmer Trainers would be conducted at the end of the first FFS cycle. These preliminary estimates are based on holding the ToT in each province and include the cost of the PL II's salary and costs plus those of the four provincial ESP Trainers. The preliminary estimate per ToT (per province) is about USD 7,300 (IDR 67 million) –details can be found in Annex 3.

6.5. ACTIVE NETWORKING

The estimates below only cover the costs of regular province-level, island- level and ESP-wide meetings of the ESP agroforestry teams, including Farmer Trainers. No attempt has been made to derive a preliminary estimate for the day-to-day costs of supporting an active network linking ESP's agroforestry practitioners, nor for the likely costs of ESP making use of the network to engage with other (potential) partners also working in community-based agroforestry. However, it is likely that these costs would be absorbed in daily operational costs and, in any case, be difficult to identify and quantify.

ESP Trainers Network. The preliminary estimates for the ESP Trainers Network is made up of two parts. The first part covers the cost of three island-level, three day meetings during the first year plus an annual two day ESP-wide meeting; an allowance has been made for about 20 additional people to attend the annual meeting. The preliminary estimate for the series of three island-level meetings is USD 21,000 (IDR 193 million), and for the ESP-wide annual meeting about USD 15,100 (IDR 139 million) – details can be found in Annex 3. The travel component of these costs could be reduced if the meetings were scheduled to coincide with other planned ESP meetings.

Farmer Trainers Network. The preliminary estimate includes the Farmer Trainers meeting twice each for two days during the FFS first cycle at the province level, not estimate has been made for possible island-level meetings although these may well be desirable to budget for in later years. The preliminary estimate per province for meetings during the FFS cycle is about USD 1,300 (IDR 12.2 million) – details can be found in Annex 3.

7. REFERENCES

List of Useful Reference Materials

No	Type	Title	Author	Publisher	Year	Note
1	B	Pengantar Agroforestri	Kurniatun Hairiah, et.al.	ICRAF	2003	The book provides discussion on the scope agroforestry systems, history of agroforestry, its definition, including types of agroforestry from simple design up to complex ones.
2	B	Klasifikasi dan Pola Kombinasi Komponen Agroforestri, Bahan Ajaran Agroforestri 2	Mustofa Agung Sardjono, et.al.	ICRAF	2003	It provides general understanding on classification and types of agroforestry combinations in Indonesia. Their differentiations are based on agroecology, economic orientation, productions systems, etc.
3	B/A	Fungsi dan Peran Agroforestri, Bahan Ajaran Agroforestri 3	Widianto et.al.	ICRAF	2003	Chapter 1 - land use change and agroforestry functions. Chapter 2, 3, 4 - agroforestry functions: biophysics, environment, biodiversity, socio-cultural and socio-economy. Pages 7-13: short introduction of relationship of agroforestry with physical characteristics of soil and hidrology.
4	B/A	Peran Agroforestri pada Skala Plot: Analisis Komponen Agroforestri sebagai kunci keberhasilan atau kegagalan pemanfaatan lahan, Bahan Ajaran Agroforestri 4	Didik Suprayogo, et.al.	ICRAF	2003	Chapter 1-3: Interactions trees-soil-seasonal crops: benefit and cost. Chapter 4: Interaction between trees and seasonal crops. Examples of field studies at plot level
5	B	Aspek Sosial Ekonomi dan Budaya Agroforestri, Bahan Ajaran Agroforestri	Didik Suharjito, et.al.	ICRAF	2003	The book discuss on socio, economic, culture, land tenure, environment conditions and gender relations of farmers who are applying certain agroforestry mixtures.
6	B	Pengelolaan dan Pengembangan Agroforestri, Bahan Ajaran Agroforestri	Widianto et.al.	ICRAF	2003	The book provides discussion on aspects for developing and modelling agroforestry systems, incl. tree domestication.

7	B/A	Peranan Pengetahuan Ekologi Lokal dalam Sistem Agroforestri	Sunaryo, et.al.	ICRAF	2003	The book discusses the role of local knowledge and farmer experiments in agroforestry systems.
8	B	Kelembagaan dan Kebijakan dalam Pengembangan Agroforestri, Bahan Ajaran Agroforestri	Tony Djogo, et.al.	ICRAF	2003	The book discusses the role of instiutions and their policies which play a significant role in the development of agroforestry systems.
9	B/A	Agroforestri di Indonesia, Bahan Latihan	Hadi Susilo Arifin, et.al.	ICRAF	2003	Three training exercises provided: group discussion, making summary of an agroforestry system, and field visit assignment. Plus 6 case studies of agroforestry from Nusa tenggara, Cianjur West Java, East Kalimantan, Maninjau West Sumatra, and Tembawang system of West Kalimantan.
10	B/A	Effects of land use change on belowground biodiversity, ASB Lecture Note 6A	Kurniatun Hairiah, et.al.	ICRAF	2001	The book discusses the importance of belowground biodiversity (BGBD) for ecosystem functions and for farming; the impacts of landuse change on BGBD; and effects of land use change on BGBD can be assessed.
11	B/A	Forest watershed functions and tropical land use change, ASB Lecture Note 7	Pendo Maro Susswein, et.al.	ICRAF	2001	The book aims to challenge a popular paradigm relating to the role of forests in watershed functions, illustrate how various watershed functions relate to the water balance, and bring an understanding of the interactions between land use/land cover change and watershed functions.
12	B/A	Complex Agroforests, Lecture Note 1	Hubert de Foresta, et.al.	ICRAF	2001	The book provides introduction on complex agroforests as a major agroforestry systems in SEA and their strengths and weaknessess for agricultural development, forestry and farmers.
13	B/A	Tree, Soil and Crop Interactions, Lecture Note 2	Meine van Noordwijk, et.al.	ICRAF	2001	The book discusses the positive and negative tree-crop interactions including some common principles which can be applied in many situation-dependent agroecosystems.
14	B/A	Soil and Water Conservation, Lecture Note 3	Meine van Noordwijk, et.al.	ICRAF	2000	The book illustrates the role of agroforestry in soil conservation at the landscape level.

15	B	Reclamation of Imperata grassland using agroforestry, Lexture Note 5	Kurniatun Hairiah, et.al.	ICRAF	2000	The book illustrates options for more productive land use of Imperata grasslands, building on local and generic knowledge, acknowledgings multiple constraints, and discusses technical requirements for shade-based control of Imperata in agroforestry systems.
16	B	Tree domestication, Lecture Note 6	James Roshetko, et.al.	ICRAF	2000	The booklet illustrates the importance of tree domestication for the improvement of tree productivity and reduction of deforestation.
17	A	Riung Mungpulung Petani II: Pelatihan dan Pengelolaan Pembibitan Pohon Kayu dan Buah	-	ICRAF, Winrock, RMI	2003	Training manual for fruit and tree nurseries.
18	A	Ketebalan Seresah sebagai indikator DAS sehat	Kurniatun Hairiah, et.al.	Unibraw, ICRAF	2004	The book is useful for developing the ESP agroforestry field training guide. It links the role of seresah (litter) in agroforestry systems to reduce erosion and its role as an indicator of a watershed condition. It discuss the roles of seresah, different types of seresah and role of earth worms to maintain water holding capacity of the soil under different agroforestry systems.
19	A	Petunjuk praktis konservasi tanah pertanian lahan kering	Agus F dan Widianto	ICRAF		The manual provides simple techniques on dryland soil conservation practices
20	A	Belajar dari Pengalaman	Roem Topatimasang, et.al.	P3M	1985	The training of trainers manual and exercises of adult education processes
21	A	Dinamika Kelompok: kumpulan permainan dan simulasi	Simon HT	Program Nasional PHT and FAO	1992	Group dynamic exercises to support farmer field school implementation.
22	B/A	Agrivita vol 26 No 1: Peranan Agroforestri dalam mempertahankan fungsi hidrologi DAS. (15 makalah)	Meine van Noordwijk, et.al.	Unibraw, ICRAF	2004	15 papers derived from research mostly in Lampung to deal with relationship of agroforestry to support hydrological functions of watershed
23	B/A	Modul Pelatihan Agroforestri bagi petani (27 modul)	Pusat Bina Penyuluhan, DAFEP	Dep Kehutanan	2003	The 27 topic headings are useful to compare with the scope of ESP's Agroforestry Field School. Although the headings/titles are complete, the contents needs be scrutinized.

24	B	Community-based forest resource conflict management. Vol 1 and 2.	Khaterine Means, et.al.	FAO	2002	The books are useful for training on conflict management issues and resolutions
25	A	Rehabilitasi Padang Alang-alang menggunakan Agroforestri dan Pemeliharaan Permudaan Alam	Kathleen S. Friday, et.al.	ICRAF, Unibraw	2000	A useful and practical manual for trainers to discus: a) imperata grassland and its ecology (ch.1,2); b) control fire (ch.3); agroforestry components (erosion control, fallow, cover crops, seasonal crops, fruit trees (ch. 4); and assisted natural regeneration (ch. 5).
26	A	Sekolah Lapangan Pembibitan Pohon oleh Masyarakat	Engkus Kuswara, et.al.	Lapis, Field, Icraf, Lestari	2005	A practical field guide to conduct farmer field school on community-based tree nurseries
27	B	Ketika Kebun berupa hutan: Agroforest Khas Indonesia, sebuah sumbangan masyarakat	H. de Foresta, et.al.	ICRAF	2000	The useful book in discussing the roles, examples and prospects of agroforestry systems in Indonesia
28	B/A	Sekolah Lapangan Komuniti Forestri: Cara belajar alternatif petani hutan	Arif Aliadi, Ratna Isnaini	Latin, Yayasan Kemala	2005	The book discusses the experience to prepare Community Forestry FFS and PRA processes
29	A	Materi Pelatihan Pengelolaan Sumber Benih dan Pengumpulan Benih untuk LSM dan Petani	Mulawarman, et.al.	ICRAF, Winrock	2001	Practical training manual on management of tree plant genetic resources and their collection
30	B/A	Smart water solutions: examples of innovative, low-cost technologies for wells, pumps, storage, irrigation and water treatment	Netherlands Water Partnership	NWP	2003	It provides many examples for rural-based low-cost water technologies
31	B/A	Pengolahan tanah masam secara biologi: refleksi pengalaman dari Lampung Utara	Kurniatun Hairiah, et.al.	ICRAF	2000	A good book based on field research experience in North Lampung province to deal soil issues with biological approaches in farmer's agroforestry systems.
32	B	Water watch: a community action guide	Abdur-Razzaq Lubis	APPEN, UNDP	1998	A manual for community learning on water related issues
33	A	Proses SLPHT	John Pontius, et.al.	Program Nasional PHT and FAO	1991	A short manual to prepare FFS, monitoring quality of FFS processes and Group Dynamic exercises
34	B/A	Studi Petani	Tim Bantuan Teknis FAO	Program Nasional PHT	1997	A good resource to explain processes to support farmer-based field studies in IPM
35	B/A	Media Praktis/Petani	Triyanto PA, et.al.	Program Nasional PHT	1995	A good training materials to support the development of farmer-farmer communication/media.

36	B/A	CD Community IPM: Soil Ecology, TOT guide, Rice IPM training field guide, etc.	Russ Dilts, et.al.	FAO	2002	A lot of training materials in IPM to support TOT and Farmer Field Schools based on Asian experiences
37	B/A	Living Soils: Training Exercise for Integrated Soils Management	William H. Settle	FAO Community IPM in Asia	2000	A good training manual for soil ecology and farmer's based research
38	B/A	Farmer's Field Research	Henk van den Berg, et.al.	FAO	2004	A good resource to explain processes to support farmer-based field studies in IPM
39	B	Sistem Insentif rehabilitasi Lahan dalam Kerangka Pengelolaan Daerah Aliran Sungai	Haryanto R. Putro, et.al	Fakultas Kehutanan IPB	2003	A book which discuss about incentive system to land and forest rehabilitation initiatives related to Watershed Management based three case studies in West Java, Riau and NTB.
40	B	Institusi Pengelolaan Daerah Aliran Sungai: Konsep dan Pengantar Analisis Kebijakan	Hariadi Kartodihardjo, et.al.	Fakultas Kehutanan IPB	2004	A policy paper to discuss the watershed related institutions and their roles.
41	B	Sekolah Lapangan Pengendalian Hama Terpadu		Program Nasional PHT and FAO	1990	The little brochure explains the general process and contents of IPM Farmer Field School
42	A	Kumpulan Petunjuk Lapangan Proses Latihan PHT	John Pontius & Simon HT	Program Nasional PHT and FAO	1992	The short manual explains Matriks Kualitas Proses Latihan Petani, Dinamika Kelompok - Sarana Penggerak Desa, Ice Breaker, Ketrampilan Pemandu,
43	A	Buku Pegangan Petani Pemandu SLPHT	Simon HT/Triyanto PA	Program Nasional PHT Departemen Pertanian	1996	Kumpulan Field Guides untuk menyiapkan dan meyelenggarakan SLPHT
44	B	A Guide to Gender-Analysis Frameworks	Candida March, et.al.	Oxfam	1999	The book discusses several gender analysis frameworks for different contexts.
45	C	Farmer Learning and Environmental Stewardship in Indonesia: Using Farmer Field Schools to Develop Sustainable Agriculture Systems		World Education Indonesia	2006	Executive Summary of WE Final Report to USAID (2002-2006)
46	A	Agroforestry seed technology and nursery management: a training manual	Romulo A delCastillo and James M Roshetko	ICRAF, WinRock, RBF	1998	A good training manual on seed and nursery.
47	A	Panduan Pemetaan Berbasis Masyarakat	Alix Flavelle	JKPP		A good training manual for mapping with community

48	A	Resource Management for Upland Areas in SouthEast Asia: An Information Kit		FAO, IIRR	1995	A
49	A	Masyarakat, Kemiskinan dan Mata Pencaharian	Nilanjana Mukherjee, et.al.	WB, DFID	2002	A good manual on PRA & sustainable livelihoods analysis
50	A	Monitoring & Evaluasi: Sebagai Media Belajar dari Pengalaman	Suwito, et.al.	Pancur Kasih, DFID MFP	2002	A useful and practical monitoring and evaluation manual
51	C	Integrated Watershed Management: Principles and Practice	Isobel W. Heathc	John Wiley & Sons	1998	A conceptual book on watershed management with case studies from developed countries.
52	B	Participatory Research and Development for Sustainable Agriculture and Natural Resource Management: A Source Book !, II, III		CIP, IDRC, IFAD, UPWARD	2006	Papers to support R&D in Sustainable Agriculture & WSM. Volume III deals specifically on practical examples of SA & WSM.
53	A	Agroforestry Technology Information Kit		IIRR, DENR Phil, Ford Foundation	1998	A good training manual on agroforestry related field activities
54	B	Dampak Hidrologis Hutan, Agroforestri dan Pertanian Lahan Kering sebagai Dasar Pembelian Imbalan Kepada Penghasil Jasa Lingkungan di Indonesia	Fahmudin Agus, et.al.	ICRAF	2004	A prooceding of conference on Impacts of forest, agroforestry, upland agriculture as a basis to provide reward to Environment Services in Indonesia
55	B/A	Canadian Rural Partnership Asset Mapping: a Handbook	Tony Fuller, et.al	the Canadian Rural Partnership		A manual for training on community asset mapping
56	A	Characterization, Diagnosis & Design: Training Exercise Book	Jan Beniest, et.al.	ICRAF		A training manual exercise to conduct agroforestry-related field activities in communities, including kebun map, transect, labour and resources charts, etc.
57	B	Developing Agroforestry Curricula: A practical guide for Academic Institutions in Africa and Asia	Per G. Rudebjer, et.al.	ICRAF	2005	A book on curriculum development of Agroforestry
58	B	A Guide to Learning Agroforestry: a framework for developing agroforestry curricula in Southeast Asia	Per G. Rudebjer, et.al.	ICRAF	2001	A guide book on curriculum development of Agroforestry

59	B/A	Facilitating Agroforestry Development Through Land and Tree Tenure Reforms in Indonesia	Marcus Colchester, et.al.	ICRAF	2005	A paper discussing land and tree tenure issues in Indonesia
60	A	CD ROM: Musuh Alami, Hama, dan Penyakit Tanaman Jambu Mete, Kakao, Kopi, Lada dan The	Projek PHT Perkebunan Rakyat	Departemen Pertanian	2002	Guide books for farmers on natural enemies, pest, and diseases for cashew, coffee, cacao, tea and pepper.
61	B/A	Lokakarya Produksi Benih dan Pemanfaatan Kaliandra		ICRAF, WinRock	2000	A workshop summary of seed production and utilization of Caliandra
62	B/A	Managing Soil Fertility on Terraces Behind Vegetative Filter Strips: An Assessment of farmer strategies	M. Stark, et.al	Univ. Kassel, ICRAF		The paper provides examples of farmer strategies and practices on managing soil fertility
63	B/A	Natural Vegetative Strips: Farmer's invention gains popularity	M. Stark, et.al	ICRAF Philippines		The paper provides examples of farmer practices on using hedgerows with nitrogen fixing trees to minimize erosion, restore soil fertility, and improve crop productivity.
64	B	Pemasaran untuk Hasil Wanatani di tingkat Petani	J Roshetko, et.al.	ICRAF	2000	The paper explains the issues on marketing of farmer products
65	C	An Introduction of Conceptual Basis of RUPES	Meine van Noordwijk, et.al.	RUPES ICRAF	2004	A series of papers of RUPES (Rewarding the Upland Poor for Environment Services) mainly deals with research and policy to promote the payment of services for maintaining watershed functions.

Category:

A. Useful to support the development of training materials
B. Useful to support the development of participants' knowledge
C. Useful as additional or in-depth reference

8. ANNEXES

ANNEX 1. TRAINING DESIGN FOR ESP 'TRAINING OF TRAINERS' AGROFORESTRY CURRICULUM – INCEPTION REPORT

ANNEX 2. AGROFORESTRY TOT CURRICULUM TRAINING PLAN, SCHEDULE AND TOPICS

ANNEX 3. AGROFORESTRY TOT – PRELIMINARY BUDGET ESTIMATES

ANNEX 4. ASSESSMENT OF CANDIDATE TRAINING LOCATIONS

ANNEX 5. SAMPLE FIELD GUIDE

ANNEX 5. TRAINING OF TRAINERS (TOT) LESSON PLANS

ANNEX1.
TRAINING DESIGN FOR ESP 'TRAINING OF TRAINERS' AGROFORESTRY CURRICULUM – INCEPTION REPORT

1. INTRODUCTION

This report has been prepared during the first two weeks of the assignment. Given that to date consultations have only been held with ESP Regional offices in Sumatera, the plans and progress report are still in the early stages of development. In the coming weeks consultations will be held with the three ESP Regional offices in Java, with government departments (Agriculture, Forestry), other relevant technical agencies, e.g. ICRAF and, time permitting, with local and international NGO operating in the agroforestry and WSM arena. The work to date has benefited greatly from knowledgeable and insightful contributions from ESP central and regional advisors and staff, plus invaluable contributions from Drs Chris Bennett and Darrell Kitchener.

The range of tasks to be attempted during this assignment are complex and challenging. To the knowledge of the team and the people we have spoken with there has not yet been a curriculum for Training of Trainers (ToT) in community-based agroforestry (AF) and using fully integrated adult educations approaches and methods for training. That is, there is no 'road map' available from which to seek guidance or a similar previous on which to build. The team have accepted this challenge. The aim to design a ToT curriculum that will make a substantial contribution to ESP achieving its goals, specifically through assisting communities in critical watersheds gain knowledge and skills that will help them better manage their farming systems and, through this, contribute to improved water management.

The report first discusses the TOR, this is followed by a discussion of issues and assumptions that have a bearing on the agroforestry curriculum, its implementation and/or potentially ESP In general. The design methodology being used, which is the result of an iterative, evolving interaction between the team, ESP colleagues and others is then outlined. A preliminary design for the Agroforestry ToT and Farmer Field Schools is outlined, including the essential elements of the design and the practical and conceptual themes guiding preparation of the ToT curriculum. The final section of the report presents the work plan for the remainder of the assignment.

2. DISCUSSION OF TOR

There are five sets of interrelated tasks involved in this assignment; the complete SoW/TOR for the assignment is attached as Annex 1.

1. Conduct a rapid assessment of existing concepts of 'Agro-forestry Farmer Field Schools' and related programs such as Community Tree Nurseries, community based critical land rehabilitation, community LandCare, etc.

We prepared some straightforward criteria for use in reviewing and classifying the wide range of materials we collected. These were as follows:

- Materials considered directly useful as inputs for preparation of training manuals and for topics for field-based training processes.
- Materials judged useful for assisting in the conceptual development of ToT participants in agroforestry, watershed management (WSM) and agroecosystem (AES) assessment, and health and hygiene (H&H) related issues.
- Materials useful for background reading and as references, including research results or in-depth discussions of specific subjects.

Prior to undertaking the conceptual and literature assessment, a listing of core issues (based on prior experience) for the Agroforestry ToT (AF ToT) curriculum was prepared. The assessment then focused on: (i) how existing approaches and conceptual frameworks dealt with these (and other) issues; and (ii) identifying materials that might be suitable for use in preparing and supporting the AF ToT (and later training courses); additional materials will be reviewed (and added) later, based on the results of discussions with ESP's Regional teams. The review of the existing approaches and conceptual frameworks for providing training in Agroforestry (AF) reveals a mass of scattered materials, none of which, in the opinion of the team, constitutes by itself a 'stand alone' or holistic and integrated approach which could be readily adapted to the needs of ESP. The same could generally be said of material available on training principles and approaches. Hence, the review focused on identifying the specific and relevant elements that might be incorporated into the integrated AF ToT curriculum the team is tasked with producing.

There is a wealth of technical material on agroforestry available, in both English and Indonesia. In general, preference has been given to material in Bahasa Indonesia (where a choice exists), so as to identify material that is potential suitable for direct use in the ToT and later. There are other extremely relevant and systematically organised material in English that it is likely we will recommend for translation into Bahasa Indonesia, e.g. all or parts of the Permanent Agriculture Resources publication "The Overstory Book" and/or articles on agroforestry.net.
The review will be incorporated in the draft final report for the assignment.

2. Work with ESP Agriculture and Agro-Forestry and WSM specialists in selected provinces in both Sumatra and Java to discuss design and curriculum development issues including alignment of curriculum content to the local-specific issues of differing eco-regions

At the time of writing (end February 2006) the team is about halfway through a round of focused discussions with the ESP Regional teams. Prior to commencing the round of visits to ESP Regions, the AF ToT team prepared a structured set of topic headings to be discussed

with each ESP Regional team; this included provision for exploring regional and locality specific issues; a copy of the list and proforma is attached as Annex 2.

3. Generate a design for generic Agro-Forestry Farmer Field School including technical content (eco-hydrology, soil ecology, nursery development, field studies, etc), facilitation skills (communication, leadership, group dynamics, gender, etc) and organizational skills (community approach, action research, advocacy, problem solving, participatory mapping, livelihoods analysis, participatory planning, etc).

The team is using an iterative methodology to tackle this complex task. The steps include: (i) preparation of the list of potential AF ToT topics and (ii) issues to be discussed with ESP regional teams – noted above. Discussions with the ESP Regional teams for Sumatera Utara, Sumatera Barat and Aceh added to and refined the list of topics and issues to be discussed, the revised list were then circulated to the there ESP regional teams in Java, ahead of visits and discussions which to be conducted in the first part of March. It is anticipated that these discussion will further refine the topics to be included in the AF ToT and complete identification of region-specific issues. One outcome of this process is the tentative identification of the core themes for the AF ToT.

The results of these discussions, and the ongoing review of the literature and other sources, are being used to outline a tentative daily training schedule.

4. Create alternative designs for a full 1 year training cycle that would include 3-4 month Training of Facilitators (full time residential training), parallel ESP Agro-forestry Field Schools, and the first round of 're-entry'/scaling-up Agro-Forestry Field Schools within each province. Proposed designs should include training sequence, types of curriculum (experiments, fieldwork, community in situ activities, etc.), integration of actual Farmer Field Schools in neighboring communities.

Discussions and analysis to-date strongly suggest that the Agroforestry ToT should be a full-time residential course lasting for about 4 months. The activities that would follow the new graduates, with regard to the framework of the ToT, are still under discussion. In brief, the challenge to be overcome and which is under active discussion, is how to rapidly scale-up the training program – so as to begin training farmer groups - while at the same time being able to provide the new graduates with in-depth, closely supported field experience, and ensure that quality is maintained.

The first draft of the generic design of the ToT is discussed in a following section of this report.

5. Develop recommendations for possible training sites for each eco-region (Sumatra and Java) and based on experience and best current information create a general estimate of costs for training and follow-up Farmer Field Schools. This general budget should also include projected costs for technical and other inputs (full time trainers, resource persons, STTA, etc) needed for the development of the training model.

Locations for the AF Field Training Facility (FTF) have been proposed in Sumatera Utara and Aceh; to date no specific location in Java has been proposed. The AF ToT team has visited each of the four candidate sites in Sumatera Utara, and one member of the team will visit the candidate site in Aceh in early March.

The team has developed a set of criteria to assist in making a systematic assessment of candidate locations for the FTF. Primary among these criteria are: (i) ready access to neighbouring villages in which to conduct AF ToT field training exercises and (ii) accommodation and core facilities sufficient for 40-50 people (participants, teaching and support staff) for the duration of the AF ToT.

Two of the team members (Nugroho Wienarto, Wahyu Sutisna) have an additional assignment following the completion and acceptance of the draft AF ToT curriculum. This is:

6. Facilitate preparation of the initial start-up, management and training processes for two possible sites for training facilitators for ESP Agroforestry Field Schools in collaboration with the management of ESP offices.

It will only be possible to commence work on this task after the previous five tasks have been completed. On the assumption that the design of the AF ToT will be completed in early April 2006 and swiftly reviewed, revised where necessary, and approved, it is judged that the earliest that the AF ToT could commence is the first half of May 2006. This would result in the first cohort of graduates completing their training in mid-late August 2006 – but this schedule is dependent on their being minimal delay between completion/approval of the AF ToT curriculum and training start-up. Given the urgent need to commence operations to train AF field staff it will be critical that the team addressing this is fully and actively supported by ESP management,

3. ISSUES AND ASSUMPTIONS

There are a number of background issues and implicit assumptions that require discussion - these concern both the TOR for this assignment and arise from the general context in which ESP is being implemented. Those that are considered to have a bearing on (i) preparing and conducting the AF ToT and (ii) which may affect the success of the AF ToT and the following farmer training program are discussed below. Some of the background issues and assumptions will be, addressed through the design of the AF ToT. However, there are other issues that may well need to be addressed by ESP at the policy and managerial level – we have attempted only to identify these matters. It is also quite possible that we have overlooked important issues and assumptions or misunderstood the context or implications - we would welcome our attention being drawn to these shortcomings.

ToT Participants Background. That very few (maybe only 5-10%) of the newly recruited participants in the ToT will have any direct experience as farmers (wet or dry) or even have parents who are or have been farmers, i.e. they have no or few practical skills and quite limited understanding of farming.

Implications

#1 The course approach, materials and activities will have to be capable of training them in a wide and challenging range of skills needed to work with farmers to improve their agroforestry.

#2 Within the broader ESP work plan and budget the ToT needs to be as long as feasible, e.g. 4 months full time, and identify and implement means for continually deepening and expanding the graduates' knowledge and skills, especially during the first year after graduation.

#3 Including much more than the range of knowledge and skills necessary for becoming effective in agroforestry has the potential for weakening capability with these core skills and confusing the participants.

#4 Additional, in-depth training on issues such as livestock, watershed management, biodiversity conservation, environmental health is probably best delivered in later specialist ToTs, when the graduates have gained some months of field experience.

Location of Agroforestry Interventions. These will be focused on and limited to locations where ESP and/or GOI have identified as critical for protecting above or below ground water sources used for downstream urban supply. (This is based on a review of ESP concept and planning documentation and discussions with ESP staff.) The extent of these areas and their land use and employment characteristics will greatly affect the scale of rehabilitation and protection (agroforestry) interventions and, hence, the number of farmers who might need to participate in Agroforestry FFS.

Implications

#1 The extent and boundaries of the locations identified as being critical for water supply may or may not coincide with existing administrative, geographical or traditional boundaries with respect to existing land use (agroforestry, forestry, agriculture).

#2 A set of field guidelines for defining the area to be included in agroforestry activities may be necessary for locations where critical water supply boundaries do not coincide with real world agroecological boundaries.

#3 Critical areas may be located inside the national forest estate (*kawasan hutan*), hence initiating activities in these locations may require developing formal agreements with the Ministry and/or Pemda.

Watershed Management Plans (WSM). The ESP Workplan proposes the development of WSM plans via the mulitstakeholder forums (MS Forums) at the broader scale of whole catchments (*Daerah Aliran Sungai – DAS*). It is anticipated that many more local, smaller-scale WSM plans will be need to be prepared down to the village environment level (*lingkungan desa*) – the means for preparing these plans, or implementing them, has not so far been defined in the Workplan.

Implications

#1 Implicitly it is intended that some of the (draft) WSM plans prepared by the MS Forum will be implemented by other people, i.e. not by the people who participated in the MS Forum, the great majority of whom are not farmers nor rural dwellers.[6] How confident can ESP be that people in local communities will be willing to implement plans prepared by other people in forum in which they may have had little or no voice?

#2 If the FFS model, as noted in the Workplan (p. 3-2), is to be followed, local scale WSM plans will need to be prepared by farmers during the AF FFS process. It is these local-scale plans that would form the basis of local WSM activities, and which will, presumably, be funded by ESP. To ensure medium- and larger-scale integration and coordination it will probably be necessary to initiate and support networking between local groups/villages within each DAS (this has been piloted in DAS Deli).

#3 There is a real possibility that if the WSM plans prepared by the MS Forum are adopted as they stand (i.e. without active participation/inputs from the local/village level within the DAS), they will conflict with those prepared by the communities (i.e. using participatory processes facilitated during the AF FS). If this occurs, how will the relative status of the two types of WSM plans be decided (e.g. with regard to the types and location of activities to be implemented) and how will this be achieved?

ESP Policy on Block Grants. To-date it is not clear whether or not ESP will be providing financial support to farmer groups to implement selected/approved agroforestry-enhancement activities within critical locations.

Implications

#1 One of the activities in the later part of the ToT will likely be the process and methods for preparing action plans and, possibly, field activity applications by farmer groups. For preparing the ToT it would be helpful to know whether or not financial support will be available to farmer groups.

#2 If ESP decides *not* to provide financial support for selected/approved farmer group project this is likely to markedly affect the willingness of farmers to undertake activities that may perceive to only be of marginal beneficial for their welfare/income or their communities.

[6] This is not the case for the three ESP regions in Sumatera, where farm community representatives have been actively 'included in' during activities leading up to the preparation of a WSM plan.

#3 If ESP decides to provide financial support for selected/approved farmer group projects then training on the processes and norms for applying, screening and selecting and approval of grants will need to be developed and, if possible, included as a ToT activity.

Integration with Pemda Programs and Budget. It remains unclear to what extent and within what timeframe ESP may be planning to integrate agroforestry activities with those of the six participating *Pemda* and, given this integration does proceed, how much budgetary commitment may be expected of them and when this might commence.

Implications

#1 ESP has its own workplan and implementation schedule, one that is only loosely connected at this point in time with Pemda budgetary cycles. Close cooperation with the six Pemda is a clearly stated and desirable goal, it appears unlikely though that it will be possible to effectively integrated the Agroforestry ToT with Pemda staff training plans in the short-term.

#2 For the Agroforestry ToT training to be effective, and for the 'investment' in the graduates to be beneficial for all stakeholders, Pemda staff will need to be officially seconded to ESP for the duration of the Agroforestry ToT (4 months) and beyond; this will require resolution of a range of (time consuming?) administrative, personnel and budgetary issues.

#3 For the medium term, i.e. ESP PY 3-5, regular budgetary commitments by the six participating Pemda to continuing support for Agroforestry activities, in this instance, would be one of the most important signs and demonstrations of potentially sustainability.

Definition of Agroforestry. The ESP definition for monitoring land rehabilitation activities only mentions "tree crops" (ESP PMP, 2005:17) - this is taken to include: fruit and timber trees and bamboo. However, although only 'trees' will be monitored, it is judged that this does not exclude farmers and the Agroforestry ToT and FFS from addressing issues to do with a much broader range of relevant and practical agroecological and farming issues. Agroforestry, as commonly understood, includes activities ranging from home gardens and family plantations, and commonly includes seasonal and tree crops and integration of (small) livestock, poultry and aquaculture.[7] Hence, the generally accepted definition is broad enough to include, at a minimum, both annual/seasonal (food, fiber) and perennial (timber, fruit) crops.

Implications

#1 Wide ranging experience in Indonesia makes it clear that (small) farmers are not at all interested in planting and maintaining tree crops that do not yield short-term economic benefits for subsistence and/or marketing. Hence, farmer involvement will best be encouraged by assisting them to select species they gauge to be economically useful, for the short-, medium- and long-term.

[7] Agroforestry, definition: "A land-use system in which woody perennials (trees, shrubs, palms, bamboos) are deliberately used on the same land management unit as agricultural crops (woody or not), animals or both, either in some form of spatial arrangement or temporal sequence. In agroforestry systems there are both ecological and economic interactions between the different components." (ICRAF 1997)

#2 In contrast, asking farmers to plant species that do not yield short-medium term benefits is likely to be both unpopular and unsuccessful; wide-ranging anecdotal evidence clearly suggests they are likely to sabotage such an approach. Even paying farmers to plant tree species they do not consider to be economically useful is likely to be unsuccessful.

Farmer Knowledge and Skills. It is commonly assumed that farmers have in depth knowledge and understanding of almost all aspects of the agroecosystem in which they reside and work; critically, very few farmers have an understanding of the ecological relationships linking components of agroecosystems. While it is true that they do have a wealth of knowledge about many aspects of the agroecosystem, experience also shows that there are many gaps, and often misconceptions, in their knowledge. Further, it appears that few farmers have well developed key technical skills, e.g. grafting, seed selection, etc. critical for success in agroforestry. [8]

Implications

#1 The core knowledge and skills needed for successful community-based and small-farmer agroforestry will be compiled as part of preparing the Agroforestry ToT curriculum; this will be supplemented by locality specific material. To maximise opportunities for longer-term success, the later Agroforestry SLs will need to ensure that farmers learn vital new skills and explore and absorb these essential materials.

#2 As sustainability is a key criterion for all ESP activities, it will be essential to ensure that farmers, farmer groups and communities in critical locations have the knowledge and skills they need to maintain, and improve or expand, the areas they have rehabilitated. In this regard it will be important to monitor and assess the degree of learning success being achieved by Agroforestry SLs (as distinct from physical outputs) throughout the project. For example, this may be done: (i) using a 'Pre- and Post-Test' approach to gauge the increase in technical knowledge and understanding of agroecosystem processes; and (ii) the geographical extent and type of farmer group initiated activities.

#3 Initiating and then actively providing continuing support for farmer and community groups to participate in information-exchange and learning networks is now understood to be a critical factor in longer-term success. Hence, providing continuing support for active networking is essential for ensuring the investment in training delivered through SLs pays off. One without the other is judged unlikely to result in longer-term success.

Deepening Local Skills and Networks. Experience has shown that there are many participants – both women and men - in Field Schools who are or become keen to pass on their newly learned knowledge and skills to others; it has also been observed that often many of these people have an avocation as trainers. The challenge is how to take advantage of this enthusiasm and commitment to advance to achievements of ESP and, importantly,

address the needs and aspirations of the participating communities. This is regarded as vital for achieving local and regional sustainability.

[8] These conclusions have been confirmed for farmers in 15 locations Aceh by the recent community-based agroforestry nursery pilot study.

#1 The means of building on this interest and commitment is to provide further training to (self-) selected graduates of the FFS, with the aim of assisting them to become Farmer Trainers (*Petani Pemandu*). These local trainers would then go on to start and train additional local Agroforestry FFS. This would be both a cost- and time-effective means of increasing the value of the initial investment in the ToT and FFS and broadening the impact of ESP, i.e. scaling-up.

#2 If this approach is adopted, i.e. training Farmer Trainers, then the structure, scheduling and budget for the Agroforestry FFS program will need to incorporate provisions for supporting the continuing work of Farmer Trainers.

#3 The value of an active learning network has already been mentioned, Farmer Trainers are likely to be key members of such networks.

#4 More broadly, using such networks as a means for farmers' groups to work with and influence local government (Pemda) policy, planning and budgeting is an important means of ensuring longer-term support both for improved management of natural resources (including water) the networks themselves.

AF/WSM Training Already Underway. In several of the six ESP provinces preparatory work for AF/ESP (which may include MS Forum) activities training has already commenced, in line with the existing workplan. It is not considered reasonable to delay, let alone abandon, these activities, especially as they most likely reflect local priorities and express local commitments to improving WSM. Nevertheless, it may well be that the topics, orientation and style of training being used for agroforestry-related activities could result in potential conflicts with what might be proposed by graduates of the AF ToT.

Implications

#1 The resolution of any potential conflicts between on-going AF training and field activities and proposal for activities that are identified after the AF ToT has been completed will need to be resolved by ESP Regional offices.

#2 ESP Regional offices may need to use the newly trained graduates form the AF ToT to assist with or take over the facilitation of on-going AF projects, with a view to (where necessary) reorienting these to reflect the Field School approach.

4. DESIGN METHODOLOGY

As far as the team is aware there is no well established approach or methodology available to guide it in preparing an AF ToT curriculum. Nor, as far as we are aware, is there an existing AF ToT curriculum using the Farmer Field School (FFS) approach which we could adapt and build on. Hence, developing both the approach and methodology have had to be undertaken by the team, and those with whom we have been interacting and collaborating, as an iterative process.

As previously noted, intense and extended discussion have been already conducted with ESP Regional team members in Sumatera Barat, Sumatera Utara and Aceh; similar discussions will be held with the three regional teams in Java during the first half of March. During this period the previously mentioned the working documents 'Preliminary List of ToT Topics' and the 'Issues to be Discussed with ESP Offices' – which the team prepared to 'ground' and focus discussions have been added to and refined, and evolved into documents used to clarify and illustrate potential approaches to structuring the content of the AF ToT.

Below the steps that have been followed so far in approaching the design of the AF ToT, and those planned for the remainder of the assignment are described. It should be noted that these may change as a result of what the team learns during the coming week form discussions with ESP regional teams in Java.

Approach and Methods To-date

- Preparation of discussion documents - 'Preliminary List of ToT Topics' and the 'Issues to be Discussed with ESP Offices', based on the three areas identified in the TOR: technical, management and facilitation, discussions with colleagues in the ESP Jakarta office, Drs Chris Bennett and Darrell Kitchener, and team experience.
- Circulation of a letter to all six regional offices notifying them of: (i) our plan to visit and hold discussions with their team, specifically the Advisor, and agroforestry and WSM specialists; (ii) provide them with copies of the 'Preliminary List of ToT Topics' and the 'Issues to be Discussed with ESP Offices'; and (iii) the team's initial visit schedule.
- Initial discussions with ESP staff (Advisor, and agroforestry and WSM specialists) in Sumatera Regional office.
- Discussions with Dr Chris McGahey regarding means of linking and integrating the agroforestry activities, both during the ToT and later in the field, with the Health and Hygiene component of ESP.
- Revision of the above documents, leading to tentative identification of ToT themes.
- Focused discussions on the situation of the ESP West Sumatera Regional team, and issues and challenges specific to their region, soliciting of suggestions for additional topics.
- Similar discussions with the North Sumatera and Aceh ESP teams.
- Further internal discussions and revision of the working documents, leading to the identification of four core themes and two supporting themes for the AF ToT.
- Preliminary structuring of the daily and weekly training schedule for the AF ToT, including a daily field work and regular field trips.

- Commencement of work to identify the range of training topics to be addressed under each of the six themes, and the sequence in which they will be addressed.
- Development of a means of simplifying and clarifying the presentation of the training themes and other activities in a matrix format covering the whole duration of the AF ToT.
- Continuing work on detailing the pattern and content of training, where possible down to the sub-heading level.

Proposed Approach and Methods for the Remainder of the Assignment

Work will continue on detailing the training themes in the matrix format, complemented by presenting the details of each training theme in accompanying documents. As a result of discussions with ESP regional teams in Java, it is anticipated that there may well be additions to the list of topics to be addressed under each of the themes.

- Meetings with the ESP Regional teams from West Java, East Java and Central Java.
- Meetings with relevant government departments (Agriculture, Forestry), AF institutions, e.g. ICRAF, and possibly NGOs (depending on available time).
- Further work on detailing the content of ToT training (and by implication the format and content of FFS training), taking into account contributions from ESP Regional teams in Java.
- Preparation of supporting material for the core themes of the curriculum, as time permits.
- Finalisation of the draft AF ToT curriculum and its submission for review.
- Revision of the draft AF ToT curriculum to take account of reviewer comments and suggestions.
- Submission of the revised AF ToT curriculum and supporting materials.

5. PRELIMINARY DESIGN FOR AGROFORESTRY TOT AND FARMER FIELD SCHOOLS

The design for the Agroforestry ToT curriculum was developed by identifying: What farmers need to learn in the planned AF Farmer Field Schools (FFS), and this in turn was based on knowledge about what farmers identify need so as to improve their own agricultural practices, and the productivity of their kebun and other farming systems. The logic behind this being that improved agroforestry will result in improved management of all types of local natural resources, and lead to better protection sources of water important for downstream (urban) areas – one of the goals of ESP. Some reliable and recent information on farmers' needs this is available from the recently completed (AusAID funded) community-based agroforestry nursery pilot project in Aceh, and additional information will also be sought from ESP Regional agroforestry specialists and other sources, including, particularly, farmers themselves. However, final identification of what farmers want and need to learn about, and what their current situation is, will need to be tested and refined during the ToT, and the ToT curriculum will be designed to do this.

As noted in the discussions of Background Issues and Assumption, it is anticipated that few (possibly none) of the participants in the AF ToT will be farmers or come from farming families. The curriculum is designed with the challenging goal of making the ToT participants into credible practitioners of critical agroforestry knowledge and skills – credible, that is, in the eyes of farmers – in the space of about four months. Throughout the draft ToT design there will be a strong, consistent emphasis on hands-on learning – commencing with participants establishing and running agroforestry nurseries, and moving up in scale and complexity to learning about all aspects of managing a *kebun*.[9] In parallel the participants will be learning skills related to mapping, watershed (WSM), agroecosystem (AES) assessment and management - first at the level of the kebun, then outwards to the village (*desa*) and then the broader environment of the sub/micro-catchment in which the village is embedded.

5.1. Essential Elements of a Design for the Agroforestry ToT

- It is proposed that the curriculum for the AF ToT cover a period of about 4 months (i.e. 100 days of actual training).
- It is proposed, given the need to avoid delays in training AF staff, that only one site in Sumatera be selected for the Field Training Facility (FTF) and that participants from both Sumatera and Java be trained at this FTF. Consideration will need to be given to whether or not to establish an additional FTF in Java.
- It is proposed that each ESP Regional office nominate 6-8 suitably qualified candidates for the AF ToT; basic qualifications should include at least: demonstrated interest and willingness to work for extended periods with farming communities at the village level, and a bachelors degree in agriculture, WSM or related fields, or equivalent experience

[9] There is no direct English equivalent for the Indonesian work '*kebun*', i.e. a relatively small area (commonly 0.25 to 1 ha) of dryland agroforestry, generally located some distance from the farmer's house. In Indonesian it is distinct from '*perkebunan*' (a commercial plantation) or a '*pekarangan*' (housegarden). Neither of the words 'plantation' or 'orchard' in English come close to capturing the local meaning. Hence, the Indonesian word will be used in the text.

- That each of the candidates nominated by their region be interview by a central ESP panel, which includes one or more regional representatives and possibly an external member.
- That the panel select 4-6 of the most suitable candidates from each ESP region; taking into account that the ToT graduates will later initially work in pairs. It is proposed that the upper limit on the number of candidates selected be 36-40 people, depending on the number of AF ToT staff to be appointed.
- It is proposed the AF ToT staff consist of two senior, well- experienced facilitators, ideally one from Sumatera and one from Java, it is essential that each small-group of ToT participants (i.e. 5-6 people) be assigned and supported by one experienced facilitator. Administrative and logistic support staff for the ToT will also be required, probably a small team of 3-4 experienced people will be sufficient. In addition, it is proposed that each small-group also be supported by a experienced, locally engaged farmer with well-developed skills in agroforestry, especially with respect to all aspects of nursery and kebun management.
- That the ESP Regional team conduct a survey of villages located adjacent or close to the site chosen for the FTF, with a view to identifying 5-6 villages which are potentially suitable and whose community members are willing to act as the 'host' and 'training environment' for the participants during the duration of the ToT; it is proposed that formal agreements between these villages and ESP be negotiated and signed.

5.2. Practical and Conceptual Themes for the ToT (and FFS)

Identifying and clarifying the core themes for the ToT has been an a intense and time consuming process – in this the team has been greatly assisted by ESP colleagues. In retrospect these themes may seem obvious and straightforward to readers. In reality, identifying them and understanding how they can be used to implement an experientially-based, hands-on, adult education curriculum has been a major challenge for the team, one that is only partially completed.

There are four core themes and two supporting themes proposed, these are:

- Agroforestry Nursery Planning, Establishment, Operations and Management
- Kebun Planning, Operations and Management
- Watershed and Agroecosystem Assessment and Management
- Adult Education and Farmer Field School Facilitation Skills

The two supporting themes are:

- Norming Good Health and Hygiene Practices
- Norming Good Management and Administration Practices

The core themes will initially focus on training participants in the practical skills and theoretical knowledge essential for competence in topics directly related to farmers improving productivity and environmental resilience of their kebun. These activities will be used to establish the pattern of daily and weekly field and classroom activities that make up the bulk of the ToT curriculum. It is proposed that each day commence and end with hands-on field work – in which the ToT participants are responsible, in the early part of the ToT, for establishing and running an agroforestry nursery – the remainder of each day will be

devoted to a mix of classroom and field activities. The two supporting themes, whose management and implementation will be in the hands of two small teams composed of ToT participants guided by the ToT staff, will be woven into this pattern, though receiving less day-to-day attention than the core themes. The aim is that the norms of good personal and group health and hygiene will be implemented during the ToT by the participants themselves, thus giving them first-hand experience is understanding that is needed at the larger scale of the community. Similarly, norming good practice in management and administration of the Field Schools that will be conducted by participants during the ToT will provide them with the skills necessary to do this after they graduate.

In keeping with the dictum of 'train as you have been trained', it is proposed that the first three core themes: Agroforestry Nurseries, Kebun Management and WSM and AES A&M (assessment and management) –form the core themes of the agroforestry FFS that are planned as part of ESP. The ability of the ToT graduates to effectively train farmers in these skills will be supported by the adult education and facilitation skills they have learnt, and norming good practice in H&H (health and hygiene) and FFS management and administration will assist them in linking and integrating agroforestry with the broader goals of ESP.

The team, with contributions from many ESP staff, have compiled a list of the essential skills and competences, including manual dexterity and facility in key nursery and other tasks, that AF ToT participants will need to master if they are to be effective as trainers and accepted as competent by the farmers' groups with whom they will later work. Demonstrated competence in these tasks, and the ability to pass them on to farmers, is considered essential for the future trainers to gain the confidence of farmers and community members as one step towards initiating WSM activities at the community level and more broadly. That is, competence in these skills is essential for 'opening the door' to full and community participation in a range of activities that will lead to improved management of the local sub-watershed and water management in general.
The list is still being compiled, and it is anticipated that it will be completed in the next week or so. The table below lists a preliminary version of the essential competencies required.

(*Preliminary Listing Only*)
Essential Nursery and Kebun Management Skills for Farmers and ToT Participants

Nursery / Pembibitan	Management/Penglolahan Kebun
Species and variety selection	Plant spacing and kebun planning
Seed selection	Plant combinations – seasonal & tree crops
Seed germination	Gap filling
Polybag preparation	Pruning and thinning
Compost – preparation and use	Water management
Seedbed preparation and maintenance	Pest and disease identification and management
Light control	Nutrient status and management
Grafting and related techniques	Harvesting techniques
Pest and disease identification and management	Soil ecology
Planting out and soil preparation	Erosion control
Seedling care (3-6 months)	Economic analysis and marketing
	Agroecosystem assessment

6. WORK PLAN MARCH – APRIL 2006

Tentative Schedule for Agroforestry Farmer Field School Curriculum Development Team

No	Activity	Feb		Feb/Mar	Mar			Mar/Apr	Apr	People Involved
		13 - 19	20 - 26	27 - 5	6 - 12	13 - 19	20 - 26	27-2	3-9	
1	Preparation, meetings, collect materials	Jkt								Agro-forestry Curriculum Team
2	Consultation meeting with WSM Padang Team in Medan Office		20-21							Ag-for Curr team & WSM Padang Team
3	Consultation and field visit with WSM Medan Team in Medan Office		22-23							Ag-for Curr team & WSM Medan Team (advisor + team)
4	Consultation with WSM Aceh Team in Medan Office		24-25							Ag-for Curr team & WSM Aceh Team (advisor + team)
5	Writing draft curriculum in Medan office			27 - 1						Ag-for Curr team, RD, JP
6	Visit to Aceh to inspects potential FtF site at BTPT Sanee				2-3					
7	Meetings and discussions with various institutions in Jakarta				4-8					NW, WS, from 08Mar05 with SF
8	Consultation meeting/field visit with WSM Jabar Team in Jakarta				9-10					Ag-for Curr team & WSM Jabar Team (advisor + team), + Chris Bennett
9	Consultation with WSM Jatim Team in Surabaya Office					13-14				Ag-for Curr team & WSM Jatim Team (advisor + team)
10	Consultation with WSM Jateng Team in Yogya Office					15-16				Ag-for Curr team & WSM Jabar Team (advisor + team)
11	Further work on draft curriculum - Agro-forestry Team in Yogya					16-19				Agro-forestry Curriculum Team
12	Finalize draft curriculum - Agro-forestry team in Jakarta						20-27			Agro-forestry Curriculum Team
13	Submit draft Agro-forestry curriculum for review, continue work on details							27-31		Agro-forestry Curriculum Team
14	Revise Agro-forestry curriculum as needed, continued work on details								3-7	Agro-forestry Curriculum Team
15	Finalise and submit Agro-forestry curriculum								7	Agro-forestry Curriculum Team

7. ANNEXES

7.1. ANNEX 1. SCOPE OF WORK/TERMS OF REFERENCE

BACKGROUND

The Environmental Services Program (ESP) is a fifty-eight month program funded by the United States Agency for International Development (USAID) and implemented under the leadership of Development Alternatives, Inc. (DAI). ESP works with government, private sector, NGOs, community groups and other stakeholders to promote better health through improved water resources management and expanded access to clean water and sanitation services. The period of the project is from December 2004 through September 2009. ESP activities are focused on seven High Priority Integrated Provinces (HPPs): Nanggroe Aceh Darussalam, North Sumatra, West Sumatra, East Java, Central Java, West Java/DKI Jakarta, and Banten. ESP also supports a limited set of activities in four Special Imperative Areas (SCIAs), Balikpapan, Manado, Manokwari and Jayapura.

OBJECTIVES (SCOPE)

ESP's Watershed Management and Biodiversity component bridges the critical connection between healthy ecosystems and basic human services by supporting conservation management of forest areas of high biodiversity value while at the same time working to stabilize and improve the supply of raw water to urban and peri-urban areas in HPPs and SCIAs). This is achieved through promoting a landscape approach to improved land stewardship that integrates conservation of natural forests with high biodiversity value; restoring and rehabilitating degraded forests and critical lands; and supporting sustainable utilization of agricultural lands.

The purpose of this consultancy is to lay the groundwork for scaling-up ESP's work in the restoration and rehabilitation of degraded forests and critical lands. In order to reach the ESP's targeted outcomes in this area, a significant number of people and communities will need to be enabled through training to plan, organize, and implement community-based initiatives in agro-forestry. The first step in launching this community led rehabilitation and restoration effort is the training of facilitators and the initiation of Agro-Forestry Farmer Field Schools in selected ESP watershed areas. The consultancy will gather and analyze exiting experience in order to design a training program for Farmer Field Schools specifically adapted to the needs of ESP's agro-forestry component. Particular emphasis will be given to the development of a practical, realistic one year training program workplan and budget estimate that can be utilized to launch this scaling-up activity in the second quarter of 2006 such that by the end of the year communities in ESP's watershed will be implementing their own rehabilitation and restoration activities based upon their Agro-Forestry Farmer Field School training.

TASKS (PERFORMANCE REQUIREMENTS)

In close collaboration with the national STTA,

1. Conduct a rapid assessment of existing concepts of 'Agro-forestry Farmer Field Schools' and related programs such as Community Tree Nurseries, community based critical land rehabilitation, community LandCare, etc.

2. Work with ESP Agriculture and Agro-Forestry and WSM specialists in selected provinces in both Sumatra and Java to discuss design and curriculum development issues including alignment of curriculum content to the local-specific issues of differing eco-regions
3. Generate a design for generic Agro-Forestry Farmer Field School including technical content (eco-hydrology, soil ecology, nursery development, field studies, etc), facilitation skills (communication, leadership, group dynamics, gender, etc) and organizational skills (community approach, action research, advocacy, problem solving, participatory mapping, livelihoods analysis, participatory planning, etc)
4. Create alternative designs for a full 1 year training cycle that would include 3-4 month Training of Facilitators (full time residential training), parallel ESP Agro-forestry Field Schools, and the first round of 're-entry'/scaling-up Agro-Forestry Field Schools within each province. Proposed designs should include training sequence, types of curriculum (experiments, fieldwork, community in situ activities, etc.), integration of actual Farmer Field Schools in neighboring communities
5. Develop recommendations for possible training sites for each eco-region (Sumatra and Java) and based on experience and best current information create a general estimate of costs for training and follow-up Farmer Field Schools. This general budget should also include projected costs for technical and other inputs (full time trainers, resource persons, STTA, etc) needed for the development of the training model.

PROPOSED SCHEDULE

This work will be conducted over a period of 6 weeks beginning in early February 2006, with a total consultant input of up to 40 person days.

DELIVERABLES

Deliverables associated with this consultancy include the following:

1. Initial report covering a generic design for an ESP Agro-Forestry Farmer Field School. This report should be produced by the end of the second week of the consultancy.
2. Training Design Report comprising the Design for the Training of Facilitators for Agro-Forestry Farmer Field Schools including curriculum, daily and weekly cycles, site selection, evaluation plan, and necessary technical input.
3. A proposed one year training plan/implementation schedule for ESP Agro-Forestry Training activities with an estimated budget.

7.2. ANNEX 2. AGROFORESTRY TOT CURRICULUM - PRELIMINARY LIST OF TOPICS

Technical – Knowledge & Skills	Management & Money	Facilitation Skills
Core Themes		
• Principles & role of agroforestry • Nursery operations & management • Agro-ecosystem assessment (AES) • Livelihood assessment • Agroforestry & landscape design • Agroforestry & watershed management • Agroforestry & Landcare • Field studies & experiments • Non-timber forest products • Basic statistics & research design • Hydro-geology • Natural disasters & agroforestry design • Living forests (functions & sources) • Plantation strategy & planning • Livestock, poultry and fisheries • Agronomy practices • Soil ecology & science • Nutrients and composting • Pest control • Terracing & erosion control • Water management • Cover crops • Legal, economic & social issues • Forest products supply & demand assessment • Basic plant & tree physiology • Needs, potentials & problems of important species	• Conflict management (land tenure, local policy, MoU/agreement development) • NRM-related legal & policy frameworks • Marketing agroforestry products • Gender & ethnic issues • Development of community watershed management strategy & plans • Community mapping & land capability assessment • Community water resource management • Product quality control • New product identification • Monitoring & evaluation • Documentation & reporting • Personnel management • Training preparation & management • Field activity planning & budgeting	• Adult education – theory & practice • Experiential learning cycle • Group dynamics • Discussion processes • Leadership knowledge & skills • Research & problem solving analysis • Organizing • Participatory planning • Local network development • Identifying funding sources • Communication skills • Advocacy
Potential Sub-Themes		
• Biodiversity Conservation • Environmental Health • Watershed Management		

ISSUES TO BE DISCUSSED WITH ESP OFFICES

February 23 March 2006

1. Informasi tentang 'Wilayah ESP' sekarang dan yang akan datang

We need to obtain the quantitative information below so that we can make a preliminary estimate of the number of farmers who are likely to be involved in ESP and require agroforestry training.

1. Luas 'wilayah' ESP yg tertentu
2. Lokasi-lokasi wilayah ESP yg tertentu
3. Tata Guna Lahan wilayah ESP yg tertentu
4. Kondisi Lahan dan DAS
5. Penduduk
6. Mata Pencaharian
7. Kepemilikan Lahan
8. Keadaan SDM AF/WSM
9. Pembibitan yg ada
10. Berapa Petani perlu dilatih

2. Kegiatan Agroforestry/WSM/Rehabilitation

This information is needed to establish a baseline on the progress of the Region in terms of preparing and implementing WSM/AF plans.

1. WSM plan yang ada
2. Hasil WSM Multistakeholder Forum
3. Hasil WSM Jaringan antar Kampung (Kerina, Forum Pedas, Fokal Mesra, dll)
4. Rencana dan Aksi Masyarakat tentang WSM/AF
5. Masalah apa yang muncul dari 2.4
6. Solusi apa yang diciptakan untuk 2.5
7. Ada masalah-masalah khusus thd recena WSM/AF di dalam wilayah ESP?

3. Materi Pembelajaran Yang Cocok untuk Masyarakat

It would be useful to know what materials you currently have available that may be suitable for use with community training.

1. Daftarkan apa yang ada
2. Daftarkan apa yang perlu (belum ada)
3. Ada materi/pendekatan untuk orang yg tidak punya lahan
4. Ada materi/pendekatan untuk perempuan
5. Cara mengajar sekarang bagaimana
6. Rencana apa untuk "scaling up"
7. Setelah pelaksanaan Agroforestry Field School, bagaimana strategi mendukung rencana masyarakat

4. Issue pokok thd ESP dari segi:

1. Sosial
2. Ekonomi
3. Budaya
4. Lingkungan
5. Politik / Pemerintahan / Perusahaan

ANNEX 2. AGROFORESTRY TOT CURRICULUM TRAINING PLAN, SCHEDULE AND TOPICS

Agroforestry TOT Curriculum Training Plan, Schedule and Topics

Week		Minggu 1		Minggu 2		Minggu 3		Minggu 4		Minggu 5		Minggu 6		Minggu 7		Minggu 8	
	0		FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Planting Out - Bibit 1.7.1-3	FW
	1	Opening Ceremony	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1
	2	Getting to Know	2	F&N 3.1.2	2	F&N 3.2.1	2	F&N 3.5.2	2	F&N 3.3.1	2	ToT Progress Review	2	Mgmt SL 4.2.2-4	2	Kebun 2.3.4	2
Monday	3	Norm Mgmt 8.1.1	3	F&N 3.1.2	3	F&N 3.2.2	3	F&N 3.5.2	3	F&N 3.3.1	3	Mgmt SL 4.2.2-4	3	Mgmt SL 4.2.2-4	3	Kebun 2.3.4	3
Senin	4	Norm Mgmt 8.1.1	4	Bibit 1.1.7	4	Kebun 2.1.1	4	Kebun 2.3.2	4	F&N 3.3.2	4	Mgmt SL 4.2.2-4	4	Mgmt SL 4.2.2-4	4	Kebun 2.2.1/3	4
	5	Dist. Materials & Equip	5	Bibit 1.1.8	5	Kebun 2.1.1	5	Kebun 2.3.2	5	F&N 3.3.2	5	Mgmt SL 4.2.2-4	5	Mgmt SL 4.2.2-4	5	Kebun 2.2.1/3	5
	6	Dormitory Organisation	FW	Composting (1.6.1-4)	FW	Nursery Skills	FW	Nursery/Soil Ecology	FW	Experiments & Study (E&S)	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
	0	Pendahulan Pembibitan	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery - Planting Out	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW
	1	Norm Mgmt 8.1.2	1	F&N 3.1.3	1	F&N 3.2.2	1	Kebun 2.2.2	1	F&N 3.3.3	1	Mgmt SL 4.2.2-4	1	Mgmt SL 4.2.2-4	1	F&N 3.7.1-2	1
	2	Norm Mgmt 8.1.3	2	F&N 3.1.3	2	F&N 3.2.2	2	Kebun 2.2.2	2	F&N 3.9.1	2	Mgmt SL 4.2.2-4	2	Mgmt SL 4.2.2-4	2	F&N 3.7.1-2	2
Tuesday	3	Norm Mgmt 8.1.4	3	Bibit 1.2.1	3	Kebun 2.2.1	3	Kebun 2.2.3	3	F&N 3.9.1	3	Mgmt SL 4.2.2-4	3	Mgmt SL 4.2.2-4	3	F&N 3.7.1-2	3
Selesa	4	Norm Mgmt 8.1.5	4	Bibit 1.2.2	4	Kebun 2.2.1	4	Kebun 2.2.3	4	Mgmt SL 4.1.6	4	Mgmt SL 4.2.2-4	4	F&N 3.5.2-3	4	F&N 3.5.2-3	4
	5	Norm Mgmt 8.5.1	5	Bibit 1.2.3	5	Kebun 2.2.1	5	Kebun 2.2.3	5	Mgmt SL 4.1.6	5	Mgmt SL 4.2.2-4	5	F&N 3.5.2-3	5	F&N 3.5.2-3	5
	FW	Nursery Preparation	FW	Composting (1.6.1-4)	FW	Bibit (1.4.1-2)	FW	Composting (1.6.1-4)	FW	Nursery - Management	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
	FW	Nursery Preparation	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW
	1	Bibit 1.1.1	1	F&N 3.1.4	1	Mgmt SL 4.1.2	1	Mgmt SL 4.1.5	1	F&N 3.9.2	1	F&N 3.10.2	1	A&W 5.2.1	1	F&N 3.7.1-2	1
	2	Bibit 1.1.2	2	F&N 3.1.4	2	Mgmt SL 4.1.2	2	Mgmt SL 4.1.5	2	F&N 3.9.2	2	F&N 3.10.2	2	A&W 5.2.1	2	F&N 3.7.1-2	2
Wednesday	3	Bibit 1.1.2	3	Bibit 1.2.4	3	Mgmt SL 4.1.3	3	Kebun 2.3.3	3	Mgmt SL 4.1.7	3	Norm Mgmt 8.5.2	3	A&W 5.2.1	3	F&N 3.7.1-2	3
Rabu	4	Bibit 1.1.3	4	Bibit 1.2.5	4	Bibit 1.5.1	4	Kebun 2.3.3	4	Kebun 2.1.3	4	Bibit 1.3.2	4	Kebun 2.7.1-3	4	F&N 3.2.4	4
	5	Bibit 1.1.5	5	Bibit 1.2.6	5	Kebun 2.3.1	5	Kebun 2.3.3	5	Kebun 2.1.4	5	Bibit 1.3.2	5	Kebun 2.7.1-3	5	F&N 3.2.4	5
	FW	Nursery Preparation	FW	Kebun (2.5.5)	FW	Bibit (1.4.1-2)	FW	Nursery - Management	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
	FW	Nursery Preparation	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW
	1	F&N 3.5.4	1	Mgmt SL 4.1.1	1	F&N 3.5.1	1	F&N 3.5.3	1	F&N 3.9.3	1	F&N 3.10.3	1	F&N 3.9.5	1	A&W 5.1.4	1
	2	F&N 3.5.4	2	Mgmt SL 4.1.1	2	F&N 3.5.1	2	F&N 3.5.3	2	F&N 3.9.3	2	F&N 3.10.3	2	F&N 3.9.5	2	A&W 5.1.4	2
Thursday	3	Bibit 1.1.4	3	A&W 5.5.1	3	F&N 3.2.3	3	F&N 3.10.1	3	F&N 3.9.4	3	F&N 3.9.5	3	F&N 3.2.4	3	A&W 5.1.4	3
Kamis	4	Bibit 1.1.4	4	Norm Mgmt 8.1.5	4	Mgmt SL 4.1.4	4	Kebun 2.1.3	4	F&N 3.9.4	4	Bibit 1.3.2	4	Kebun 2.7.1-3	4	Kebun 2.2.1/3	4
	5	Bibit 1.1.5	5	Bibit 1.3.1	5	Mgmt SL 4.1.4	5	Kebun 2.1.4	5	F&N 3.10.1	5	Bibit 1.3.2	5	Kebun 2.7.1-3	5	Kebun 2.2.1/3	5
	FW	Nursery Preparation	FW	Kebun (2.5.6)	FW	Bibit (1.4.1-2)	FW	Composting (1.6.1-4)	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
	FW	Nursery Preparation	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW
	1	F&N 3.1.1	1	A&W 5.1.1-3	1	F&N 3.2.3	1	Mgmt SL 4.2.1	1	Mgmt SL 4.2.2-4	1	Bibit 1.5.2	1	Kebun 2.3.4	1	Norm Mgmt 8.5.3-4	1
	2	F&N 3.1.1	2	A&W 5.1.1-3	2	F&N 3.2.3	2	Mgmt SL 4.2.1	2	Mgmt SL 4.2.2-4	2	Bibit 1.5.3	2	Kebun 2.3.4	2	Norm Mgmt 8.5.3-4	2
Friday	3	Pengantar Field Trip	3	A&W 5.1.1-3	3	F&N 3.2.3	3	Pengantar ToT Review	3	Mgmt SL 4.2.2-4	3	Bibit 1.5.4	3	Kebun 2.3.4	3	F&N 3.5.5	3
Jumat	4	Bibit 1.1.5	4	A&W 5.1.1-3	4	F&N 3.10.1	4	Bibit 1.3.3	4	Mgmt SL 4.2.2-4	4	Bibit 1.3.4	4	Kebun 2.7.1-3	4	Kebun 2.2.1/3	4
	5	Bibit 1.1.6	5	A&W 5.1.1-3	5	Persiapan Field Trip	5	Bibit 1.3.3	5	Persiapan Field Trip	5	Bibit 1.3.4	5	Kebun 2.7.1-3	5	Kebun 2.2.1/3	5
	FW	Composting (1.6.1-4)	FW	Composting (1.6.1-4)	FW	Nursery/Soil Ecology	FW	Nursery - Management	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
	FW	Nursery Preparation	FW	Nursery Skills	FW	Nursery - Management	FW	Nursery - Management	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
	FT	Participant Pre-Test	FT	FT #1: Mapping Skills	FT	FT #2: Tour of Villages	FT	Norm H&H	FT	FT #3: Melakukan AES	FT	Pertermuan calon SL	FT	FT #4: Analisis Peran	FT	Persiapan SL identifikasi	FT
Saturday	FT	H&H Lingkungan ToT	FT	A&W 5.1.4	FT	that will host SL: simple	FT	di ToT & Desa ESP	FT	Kebun, kalendar, ekonomi	FT	peserta SL, agenda seleksi	FT	Ekosistem & Pengelolaan	FT	calon kebun belajar, calon	FT
Sabtu	FT	Norm H&H 7.1.1-2, 7.2.3,	FT		FT	sketch map (land use),	FT	7.2.1, 7.2.2, 7.3.1-3	FT		FT	kontrak belajar	FT	SD Air	FT	perserta, bertamu tokmas	FT
	FT	7.4.1-3, 7.5.1-2	FT		FT	introduction to Desa	FT		FT		FT		FT		FT		FT
	FT		FT		FT		FT		FT		FT		FT		FT		FT
Sunday Minggu		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day	
	FW	Composting	FW	Nursery Skills	FW	Nursery - Management	FW	Experiments&Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW

Minggu 9		Minggu 10		Minggu 11		Minggu 12		Minggu 13		Minggu 14		Minggu 15		Minggu 16	
Planting Out - Bibit 1.7.1-3	FW	Planting Out - Bibit 1.7.1-3	FW	Planting Out - Bibit 1.7.4-5	FW	Planting Out - Bibit 1.7.4-5	FW	Planting Out - Bibit 1.7.4-5	FW	Planting Out - Bibit 1.7.4-5	FW	Nursery Planting Out	FW	Nursery Planting out	FW
Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)	1
F&N 3.6.1	2	F&N 3.6.2	2	Mgmt SL 4.3.1	2	Mgmt SL 4.3.3	2	Mgmt SL 4.2.5	2	A&W 5.7.1	2	A&W 5.7.2-3	2		2
F&N 3.6.1	3	F&N 3.6.2	3	Mgmt SL 4.3.2	3	Mgmt SL 4.3.4	3	A&W 5.6.1	3	A&W 5.7.1	3	A&W 5.7.2-3	3		3
Kebun 2.3.5	4	Kebun 2.5.1	4	Kebun 2.5.2	4	A&W 5.3.3	4	A&W 5.6.2	4	A&W 5.6.3	4	A&W 5.7.2-3	4		4
Kebun 2.3.6	5	Kebun 2.5.6	5	Kebun 2.5.2	5	A&W 5.3.3	5	A&W 5.6.2	5	A&W 5.6.3	5	A&W 5.7.2-3	5		5
Siap-siap bahan di Desa SL	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Planting out	FW
A&W 5.1.5-6	1	Kebun 2.5.4	1	A&W 5.2.4	1	Kebun 2.8.2	1	Kebun 2.8.4	1	Kebun 2.8.6	1	F&N 3.8.3-4	1	Norm Mgmt 8.5.3-4	1
A&W 5.1.5-6	2	Kebun 2.5.4	2	A&W 5.2.4	2	Kebun 2.8.2	2	Kebun 2.8.4	2	Kebun 2.8.6	2	F&N 3.8.3-4	2		2
A&W 5.1.5-6	3	A&W 5.2.2-3	3	A&W 5.2.4	3	Kebun 2.8.2	3	Kebun 2.8.4	3	Kebun 2.8.6	3	F&N 3.8.3-4	3		3
A&W 5.1.5-6	4	A&W 5.2.2-3	4	Kebun 2.5.7	4	Kebun 2.6.3	4	Kebun 2.6.4	4	Kebun 2.6.5	4	Norm Mgmt 8.3.1	4		4
A&W 5.1.5-6	5	A&W 5.2.2-3	5	Kebun 2.5.7	5	Kebun 2.6.3	5	Kebun 2.6.4	5	Kebun 2.6.5	5	Norm Mgmt 8.3.1	5		5
Siap-siap bahan di Desa SL	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skill	FW
SL - Bibit	1	SL - Bibit	1	SL - AES Peta Kebun	1	SL - AES Kebun Interaksi	1	SL - AES Ekonomi (SWOT)	1	SL - Rencana Kebun	1	SL - Perbaikan Rencana	1	SL - Follow-up Plan	1
SL - Bibit	2	SL - Bibit	2	SL - AES Peta Kebun	2	SL - AES Kebun Interaksi	2	SL - AES Ekonomi (SWOT)	2	SL - Rencana Kebun	2	SL - Perbaikan Rencana	2	SL - Field Day Prep	2
SL - Organisi	3	SL -	3	SL -	3	SL -	3	SL -	3	SL - Field Day Invites	3	SL - Field Day Prep	3	SL -	3
	4		4		4		4		4		4		4		4
	5		5		5		5		5		5		5		5
Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skill	FW
F&N 3.4.1-3	1	A&W 5.1.6	1	SL - AES Peta Kebun	1	SL - AES Diskusi Peta/Unsur	1	SL - AES Ekonomi (SWOT)	1	SL - Rencana Kebun	1	SL - Presentasi Rencana	1	SL Field Day	1
F&N 3.4.1-3	2	A&W 5.1.6	2	SL - AES Peta Kebun	2	SL - AES Diskusi Peta/Unsur	2	SL - AES Ekonomi (SWOT)	2	SL - Rencana Kebun	2	SL - Presentasi Rencana	2	SL Field Day	2
F&N 3.4.1-3	3	Kebun 2.8.1	3	SL -	3	SL -	3	SL -	3	SL -	3	SL -	3	SL Field Day	3
Kebun 2.6.1	4	Kebun 2.6.2	4		4		4		4		4		4		4
Kebun 2.6.1	5	Kebun 2.6.2	5		5		5		5		5		5		5
Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skills	FW	Nursery Skill	FW
Kebun 2.5.3	1	A&W 5.5.2	1	A&W 5.3.1-2	1	Kebun 2.8.3	1	Kebun 2.8.5	1	F&N 3.8.1-2	1	A&W 5.4.1	1		1
Kebun 2.5.3	2	A&W 5.5.2	2	A&W 5.3.1-2	2	Kebun 2.8.3	2	Kebun 2.8.5	2	F&N 3.8.1-2	2	A&W 5.4.1	2		2
Kebun 2.5.3	3	A&W 5.5.2	3	A&W 5.3.1-2	3	Kebun 2.8.3	3	Kebun 2.8.5	3	F&N 3.8.1-2	3	A&W 5.4.2	3		3
Kebun 2.4.1	4	Kebun 2.4.2	4	Kebun 2.4.3	4	Kebun 2.4.4	4	Kebun 2.4.5	4	A&W 5.6.4	4		4		4
Kebun 2.4.1	5	Kebun 2.4.2	5	Kebun 2.4.3	5	Kebun 2.4.4	5	Kebun 2.4.5	5	A&W 5.6.4	5		5		5
Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW	Experiments & Study	FW
Experiments & Study	FW	Experiments & Study	FW		FW		FW		FW		FW		FW		FW
FT #5: Pembibitan	FT	Norm Mgmt 8.4.1	FT	FT #6: LandCare	FT	FT #7: Daur Air	FT	FT #8:	FT	FT #9:	FT	FT #10:	FT	FT #11:	FT
	FT	Norm Mgmt 8.4.1	FT		FT		FT		FT		FT		FT		FT
	FT	Norm Mgmt 8.4.1	FT		FT		FT		FT		FT		FT		FT
	FT	Norm Mgmt 8.4.1	FT		FT		FT		FT		FT		FT		FT
	FT		FT		FT		FT		FT		FT		FT		FT
Rest Day		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day		Rest Day	
Experiments & Study	FW	Experiments & Study	FW		FW		FW		FW		FW		FW		FW

	Minggu 17		Minggu 18
		FW	
	Rapat Mingguan (8.2.1)	1	Rapat Mingguan (8.2.1)
	Norm Mgmt 8.4.2	2	
	Norm Mgmt 8.4.2	3	
	Norm Mgmt 8.4.2	4	
	Norm Mgmt 8.4.2	5	
		FW	
	Field Day (8.3.2)	FW	
	Field Day (8.3.2)	1	
	Field Day (8.3.2)	2	
	Field Day (8.3.2)	3	
		4	
		5	
		FW	
	Nursery Skill	FW	
	SL - Tindak Lanjut	1	
	SL - Tindak Lanjut	2	
	SL - Tindak Lanjut	3	
	SL - Tindak Lanjut	4	
	SL - Tindak Lanjut	5	
		FW	
		FW	
		1	
		2	
		3	
		4	
		5	
		FW	
		FW	
		1	
		2	
		3	
		4	
		5	
		FW	
		FW	
	FT #12:	FT	
		FT	
		FT	
		FT	
		FT	
	Rest Day		Rest Day
		FW	

Daily Schedule

FW	0630-0800
	Breakfast 0800-0900
1	0900-1000
2	1000-1100
	Break 1100-1115
3	1115-1215
	Lunch 1215-1345
4	1345-1445
	Break 1415-1430
5	1430-1530
	Break 1530-1600
FW	1600-1700
	Dinner 1800-1900
HW	1900-2200

1 Pembibitan & Penanaman

1.1	Persiapan Pembibitan	1.2	Teknik Perbanyakan	1.3	Pengelolaan Benih & Bibit	1.4	Pengendalian Hama dan Penyakit Penting	1.5	Biologi Tanaman	1.6	Ekologi Tanah & Pengelolaan Bahan Organik	1.7	Persiapan & Penanaman
1.1.1	Penjelasan Tujuan dan Bentuk Kegiatan kb CR Waktu: 1 jam	1.2.1	Teknik Sambungan & Dampak kb/kk FE * Waktu: 1 jam	1.3.1	Identifikasi Sumber Benih Sehat kb FE * Waktu: 1 jam	1.4.1	Analisa Gejala & Penyebab Kerusakan kb/kk FE * Waktu: 2 jam	1.5.1	Fisiologi Benih & Bibit kb/kk FE Waktu: 1 jam	1.6.1	Ekologi Tanah (living soil principles) kb/kk FE Waktu: 1 jam	1.7.1	Penyesuaian Bibit kb FE * Waktu: 1 jam
1.1.2	Prinsip Utama Membuat Pembibitan di FTF dan di SL kb/kk FE Waktu: 2 jam	1.2.2	Teknik Cangkok kb/kk FE * Waktu: 1 jam	1.3.2	Teknik Koleksi & Seleksi Benih & Mata Tempel kb/kk FE * Waktu: 4 jam	1.4.2	Kesimpulan & Tindakan kb/kk FE * Waktu: 1 jam	1.5.2	Fisiologi Tanaman Pohon kb/kk FE Waktu: 1 jam	1.6.2	Pengantar Kompos & Pupuk Organis kb FE Waktu: 1 jam	1.7.2	Persiapan Lubang Tanam kb/kk FE * Waktu: 1 jam
1.1.3	Pengorganisasian Pembibitan Masyarakat kb/kk FE Waktu: 2 jam	1.2.3	Teknik Penyusuan kb/kk FE * Waktu: 1 jam	1.3.3	Perlakuan Benih & Mata Tempel kb/kk FE * Waktu: 2 jam			1.5.3	Fisiologi Tanaman Rumput kb/kk FE Waktu: 1 jam	1.6.3	Praktek Pembuatan Kompos kk FE * Waktu: 3 jam	1.7.3	Menanam Bibit kk FE * Waktu: 1 jam
1.1.4	Pemilihan Lokasi Pembibitan kb/kk CR/ Waktu: 1 jam	1.2.4	Teknik Stek kb/kk FE * Waktu: 1 jam	1.3.4	Uji Mutu Benih & Perkecambahan kk/kb FE * Waktu: 2 jam			1.5.4	Fisiologi Tanaman Ubi-ubian kb/kk FE Waktu: 1 jam	1.6.4	Praktek Pemanfaatan Kompos kk FE * Waktu: 1 jam	1.7.4	Perawatan Tanaman Muda kb/kk FE * Waktu: 1 jam
1.1.5	Persiapan Lahan & Alat Pembibitan kk FE * Waktu: 2 jam	1.2.5	Teknik Penyisipan kb/kk FE * Waktu: 1 jam									1.7.5	Fase Kritis Tanaman Muda kb/kk FE * Waktu: 1 jam
1.1.6	Pengelolaan Pengairan (berdasakan media tumbuh) kk FE * Waktu: 1 jam	1.2.6	Teknik Okulasi kb/kk FE * Waktu: 2 jam										
1.1.7	Pengaturan Naungan (intensitas penyinaran) kk FE * Waktu: 1 jam												
1.1.8	Perlakuan & Penyiapan Media Tumbuh (test pH) kk FE * Waktu: 1 jam												

Note: CR- Classroom
FE- Field Exercise
kk- Kelompok Kecil
kb - Kelompok Besar

2 Pengelolaan Kebun

2.1	Analisis Kebun	2.2	Sistem Pengelolaan Kebun	2.3	Analisis Agroekosistem	2.4	Perencanaan Perbaikan Kebun	2.5	Pengelolaan Lahan & Tanah	2.6	Teknik Pemeliharaan Kebun	2.7	Pengendalian Hama dan Penyakit Tumbuhan	2.8	Ekonomi & Pasaran Kebun
2.1.1	System Kebun A/F kb CR/FE Waktu: 2 jam	2.2.1	Mengkaji Sistem Pengelolaan Kebun Petani kb/kk FE * Waktu: 6 jam	2.3.1	Prinsip & Tujuan Analisis AES kb CR Waktu: 1 jam	2.4.1	Tindak Landjut Kesimpulan AES kb/kk FE * Waktu: 2 jam	2.5.1	Prinsip Konservasi dan Tujuan SDA kb CR Waktu: 1 jam	2.6.1	Penjarangan & Pemangkasan Tanaman kb/kk FE * Waktu: 2 jam	2.7.1	Analisa Gejala Kerusakan kb/kk FE * Waktu: 2 jam	2.8.1	Analisa Faktor-faktor Penting kb/kk CR * Waktu: 1 jam
2.1.2	Analisis Kalender Kebun kb/kk FE * Waktu: 2 jam	2.2.2	Tata Letak Tanaman kb/kk CR/FE Waktu: 2 jam	2.3.2	Analisis AES Dasar kb/kk CR/FE * Waktu: 2 jam	2.4.2	Nilai Unsur-unsur Kebun kb/kk CR/FE * Waktu: 2 jam	2.5.2	Erosi & Sedimentasi Tanah kb/kk FE * Waktu: 2 jam	2.6.2	Analisis Gejala Defisiensi kb/kk FE * Waktu: 2 jam	2.7.2	Analisa Penyebab Kerusakan kb/kk FE * Waktu: 2 jam	2.8.2	Analisa Supply-Demand Pasar kb/kk FE * Waktu: 3 jam
2.1.3	Analisis Ekonomi Kebun kb/kk CR/FE * Waktu: 2 jam	2.2.3	Kesesuaian Ekologi Kombinasi Pohon & Tanaman kb/kk FE * Waktu: 6 jam	2.3.3	Praktek AES di Lingkungan ToT kk FE * Waktu: 2 jam	2.4.3	Analisis SWOT Kebun kb/kk CR/FE * Waktu: 2 jam	2.5.3	Eksplorasi & Diskusi Bentuk Kebun Petani kb/kk CR/FE Waktu: 3 jam	2.6.3	Metode Perbaikan Kesuburan Tanah kb/kk FE * Waktu: 2 jam	2.7.3	Kesimpulan dan Tindakan Pengendalian kb/kk FE * Waktu: 2 jam	2.8.3	Analisa Trend Pasar kb/kk FE * Waktu: 3 jam
				2.3.4	Melakukan AES Kebun kk FE * Waktu: 4 jam	2.4.4	Strategi Perbaikan Kebun kb/kk CR/FE * Waktu: 2 jam	2.5.4	Porositas & Koloid Tanah kb/kk FE * Waktu: 3 jam	2.6.4	Sistem Pengelolaan Air di Kebun kb/kk FE * Waktu: 2 jam			2.8.4	Analisa Rantai Pasar kb/kk FE * Waktu: 3 jam
				2.3.5	Keragaman Hayati Kebun kb/kk FE * Waktu: 2 jam	2.4.5	Pengambilan Keputusan Keluarga dalam Perencanaan Kebun kb/kk CR/FE * Waktu: 2 jam	2.5.5	Fungsi Seresah & Cacing Tanah kb/kk FE * Waktu: 3 jam	2.6.5	Penyulaman & Pembumbunan Tanaman kb/kk FE * Waktu: 2 jam			2.8.5	Prospek NTFP kb/kk CR/FE Waktu: 3 jam
								2.5.6	Mulsa Organis kb/kk FE * Waktu: 1 jam					2.8.6	Pemilihan Tanaman Sesuai Kebutuhan Keluarga kb/kk CR/FE * Waktu: 3 jam
								2.5.7	Pemilihan & Teknik Konservasi kb/kk FE * Waktu: 2 jam						

Note 2.1.2 termasuk pengantar 2.1.3 & 2.1.4 di dalam CR

CR- Classroom
FE- Field Exercise
kk- Kelompok Kecil
kb - Kelompok Besar

Note 2.3.4 Sub Topik ini mencakup metoda pengelolaan tipe lahan dan sistem penanaman

Note 2.4.3 & 2.4.4 link ke 2.1.3 & 2.1.4

Nore 2.5.4 termasuk pengaruh akar tanaman

Note 2.6.2-3 termasuk isu-isu nutrient

Note 2.8.1 Termasuk perbedaan antara jenis-jenis tanaman & product

2.8.3 Trend musiman & tahunan
2.8.5 melihat selama Field Trip

3 Facilitation & Networking

3.1	**Konsep Pelatihan**	3.2	**Metoda Pelatihan Partisipatif**	3.3	**Kerjasama**	3.4	**Kreativitas**	3.5	**Komunikasi**	3.6	**Pengorganisasian Masyarakat**	3.7	**M&E Proses & Pelatihan**	3.8	**Menyelesaikan Konflik**	3.9	**Memfasilitasi Studi Petani**	3.10	**Dinamika Kelompok**
3.1.1	Analisis Kemampuan Pemandu Latihan kb/kk CR * Waktu: 2 jam	3.2.1	Prinsip Dasar Metodologi Pelatihan kb/kk CR * Waktu; 1 jam	3.3.1	Prinsip Dasar Kerjasama kb/kk CR Waktu: 2 jam	3.4.1	Prinsip Dasar Kreativitas kb/kk CR * Waktu: 1 jam	3.5.1	Komunikasi Satu & Dua Arah kb/kk CR Waktu: 2 jam	3.6.1	Pengorganisian Masyarakat kb/kk CR * Waktu: 2 jam	3.7.1	Prinsip Dasar Evaluasi Latihan kb/kk CR * Waktu: 3 jam	3.8.1	Analisa Sejarah Konflik kb/kk CR * Waktu: 1 jam	3.9.1	Prinsip-prinsip Sains & Studi Petani kb/kk CR * Waktu: 2 jam	3.10.1	Praktek Dinamika Kelompok kb/kk CR * Waktu: 3 jam
3.1.2	Sikap Dasar Pemandu Latihan kb/kk CR * Waktu: 2 jam	3.2.2	Cakupan & Unsur Pokok Metodologi kb/kk CR * Waktu: 3 jam	3.3.2	Faktor Penghambat & Penunjang kb/kk CR * Waktu: 2 jam	3.4.2	Faktor Pendukung & Penghambat Kreativitas kb/kk CR * Waktu: 1 jam	3.5.2	Teknik Dialog & Tanya-Jawab kb/kk CR * Waktu: 2 jam	3.6.2	Pengorganisasian Jaringan Masyarakat kb/kk CR * Waktu: 2 jam	3.7.2	Menjaga Kualitas Pelatihan kb/kk CR * Waktu: 3 jam	3.8.2	Analisa Hukum & Kebijakan Pengelolaan SDA kb/kk CR * Waktu: 2 jam	3.9.2	Rancangan Studi kk CR/FE * Waktu: 2 jam	3.10.2	Membaca Situasi Kelompok kb/kk CR * Waktu: 2 jam
3.1.3	Penaksiran Kebutuhan Latihan kb/kk CR Waktu: 2 jam	3.2.3	Penyajian & Analisis Metodologi/Praktek Memandu kb/kk CR * Waktu: 4 jam	3.3.3	Pembentukan Kerjasama kb/kk CR Waktu: 1 jam	3.4.3	Daya Menumbuhkan Kreativitas kb/kk CR * Waktu: 1 jam	3.5.3	Teknik Diskusi & Pengambilan Keputusan kb/kk CR * Waktu: 2 jam					3.8.3	Pemetaan & Analisis Penyebab Konflik kb/kk CR/FE * Waktu: 1 jam	3.9.3	Pelaksanaan Studi & Pengambilan Data kk FE * Waktu: 2 jam	3.10.3	Meyeimbangkan Kelompok kb/kk CR * Waktu: 2 jam
3.1.4	Falsafah & Teori Dasar Pelatihan kb/kk CR * Waktu: 2 jam	3.2.4	Praktek Menyusun Petunjuk Lapangan kb/kk CR/FE * Waktu: 2 jam					3.5.4	Menulis itu Mudah kb/kk CR * Waktu: 2 jam					3.8.4	Implementasi Penyelesaian Konflik SDA kb/kk CR/FE * Waktu: 2 jam	3.9.4	Analisis Data & Kesimpulan kk CR/FE * Waktu: 2 jam		
								3.5.5	Pengantar Media Rakyat kb CR * Waktu: 1 jam							3.9.5	Dokumentasi, Laporan & Penvebaran kk CR * Waktu: 3 jam		

Note CR-Classroom

FE-Field Exercise

kk - Kelompok Kecil

kb - Kelompok Besar

Note 3.2.1 Rawa-rawa latihan

3.2.2. ketrampilan membentuk suasana, memfasilitasi dan mengevaluasi proses pelatihan

3.2.3 ketrampilan mendisain sebuah proses pelatihan

Note 3.5.2 & 3.5.3 didalam context 3.10

3.5.4 ditindaklanjuti dengan penulisan "Kata-kata dari Kancah" oleh setiap orang.

Note 3.6.2 link dg 4.3.1

Note 3.7.1 termasuk Metode M&E Pelatihan link ke 3.5.4

3.7.2 metode termasuk kontrak belakar, refleksi harian, matrik kualitas, lokakarya dll

Note 3.8.3 asumsi sudah ada bahan studi kasus

Note 3.9.1 termasuk Pemilihan Topik-topik Studi

3.9.1 Topik Studi dapat berbeda ditiap kelompok tergantung masalah utama dan minat petani setempat.

3.9.2 Termasuk Persiapan Alat & Bahan - link ke 2.3, 2.4 atau 2.6

3.9.5 link ke 3.5.4 & 3.5.5

4 Manajemen Sekolah Lapangan

4.1	Kegiatan Pra-SL	4.2.	Kegiatan Selama SL	4.3	Kegiatan Setelah SL
4.1.1	Pola Penyelenggaraan SL kb/kk CR * Waktu: 2 jam	4.2.1	Mengelola Pembibitan & Kebun di SL kb/kk CR/FE * Waktu: 2 jam	4.3.1	Perencanaan Tindak Lanjut kk FE * Waktu: 1 jam
4.1.2	Peran Perempuan & Laki-laki kb/kk CR/FE * Waktu: 2 jam	4.2.2	Memandu di SL (1) – AES kb/kk CR/FE * Waktu: 7 jam	4.3.2	Tindak Lanjut (1): Jaringan Petani kb CR * Waktu: 1 jam
4.1.3	Pemilihan Peserta SL dan Lahan Belajar kb/kk CR/FE * Waktu: 1 jam	4.2.3	Memandu di SL (2) – Topik Khusus & Studi Lapangan kb/kk CR/FE * Waktu: 7 jam	4.3.3	Pengembangan Media kb CR/FE * Waktu: 1 jam
4.1.4	Proses Persiapan SLAF di Desa ESP kk CR/FE * Waktu: 2 jam	4.2.4	Memandu di SL (3) – Dinamika Kelompok & Evaluasi kb/kk CR/FE * Waktu: 6 jam	4.3.4	Tindak Lanjut (2): TOT & SL Petani kb CR * Waktu: 1 jam
4.1.5	Analisis Kebutuhan & Perencanaan Kegiatan SLAF kb/kk CR/FE * Waktu: 2 jam	4.2.5	Hari Lapangan/Field Day kb/kk CR/FE * Waktu: 1 jam		
4.1.6	Pre-post "Ballot-Box" Test kb/kk CR * Waktu: 2 jam				
4.1.7	Dokumentasi SL kb/kk CR * Waktu: 1 jam				

Note 4.1.1: Prinsip, strategi, syarat-2, dst
4.1.4 & 4.1.5 - mingguan, musiman
4.1.6 - data awal/akhir, formulir, foto, peta, dll.

Note 4.2.1-4.2.4 diulang sebagai materi persiapan SL di ToT
4.2.2 termasuk penambilan keputusan pengelolaan pembibitan & kebun
4.2.1 termasuk desain dan pengorganisasian studi di kb/kk

5 AES & WSM

5.1	Pemetaan	5.2	Bumi Lestari (LandCare)	5.3	Hak Pengelolaan Lahan	5.4	Ekonomi,Sosial & Etnis	5.5	Sistem Daur Air	5.6	Teknik Konservasi SD Air	5.7	Hukum & Kebijakan SDA
5.1.1	Pengantar Pemetaan & Penggunaan Alat Pemetaan kb/kk CR/FE Waktu: 2 jam	5.2.1	Ciri-ciri & Kriteria Kondisi Lahan kb/kk CR/FE * Waktu: 4 jam	5.3.1	Tipe-tipe Hak Pengelolaan Lahan kb/kk CR Waktu: 1 jam	5.4.1	Fungsi SDA & Ekonomi, Sosial & Etnis kb/kk CR Waktu: 2 jam	5.5.1	Ruang Lingkup Daur Air Sederhana kb/kk CR Waktu: 1 jam	5.6.1	Teknik Konservasi SD Air kb/kk CR * Waktu: 1 jam	5.7.1	Hukum & Kebijakan SDA kb CR Waktu: 2 jam
5.1.2	Cara Mengunakan Peta & Alat-alat kb/kk CR/FE * Waktu: 3 jam	5.2.2	Melakukan Analisis Kondisi Lahan di Desa ESP kk FE * Waktu: 2 jam	5.3.2	Analisis Hak Pengelolaan Lahan di Desa kk FE * Waktu: 2 jam	5.4.2	Pengantar Pengembangan Forum Multi Pihak di Sub-DAS kb/kk CR Waktu: 1 jam	5.5.2	Analisis Peran Ekosistem & Pengelolaan SD Air kb/kk FE * Waktu: 3 jam	5.6.2	Metode Sipil Teknis kb/kk FE * Waktu: 2 jam	5.7.2	Kearifan Lokal Pengelolaan SDA kb/kk FE * Waktu: 2 jam
5.1.3	Pembuatan Peta di Lingkungan ToT kk FE * Waktu: 2 jam	5.2.3	Analisis Alternatif Penanganan Lahan kb/kk FE * Waktu: 2 jam	5.3.3	Analisis Alternatif Hak Pengelolaan Lahan kb/kk FE * Waktu: 2 jam					5.6.3	Metode Vegetasi kb/kk FE * Waktu: 2 jam	5.7.3	Konflik antara Kearifan Lokal & Hukum Modern kb/kk CR/FE Waktu: 2 jam
5.1.4	Pembuatan Peta Dasar Kebun & Penggunaan Lahan kk FE * Waktu: 3 jam	5.2.4	Mengamati Kondisi sub-DAS kk FE * Waktu: 3 jam							5.6.4	Metode Daur Ulang Air kb/kk FE * Waktu: 2 jam		
5.1.5	Transek & Pemetaan AES Kampung/Desa ESP kk FE * Waktu: 3 jam												
5.1.6	Analisa AES Kampung/Desa ESP kk FE * Waktu: 2 jam												

Note 5.1.1-5 Persiapan untuk Field Trip termasuk kegiatan hari Jumat

5.1.1 & 5.1.2 "kenapa tidak pakai GPS?"
5.1.3 Buat peta lokasi ToT
5.1.4 Buat peta kebun - termasuk transek, menjelaskan unsur-unsur kebun, kondisi unsur-unsur, nilai lokal, fungsi ekologis, sejarah kebun
5.1.5 Buat Peta Kampung - penggunaan lahan & pemukiman & AES

Note 5.2.3 supaya perserta bisa mulai beljar baca landscape; pembahasan umum saja, terhadap konteks desa

Note 5.3 Maksudnya land tenure

None 5.5.2 termask sumber air & daya rusak air/banjir

Note 5.6.3 termasuk polusi air & dampak

Note 5.7 Skala tingkat kabupaten ke atas

5.7.3 Termasuk konflik SDA

CR- Classroom
FE- Field Exercise
kk- Kelompok Kecil
kb - Kelompok Besar

6 Field Work - AM & PM

6.1	Persiapan Lahan Pembibitan	6.2	Seleksi & Penyiapan Benih & Bibit	6.3	Pemeliharaan Bibit	6.4	Perbanyakan Bibit	6.5	Pembuatan kompos	6.6	Penanaman	6.7	Pemeliharaan Tanaman Kebun	6.8	Koleksi Benih
1	Persiapan Lokasi Pembibitan	2	Pengumpulan Benih	2	Penyulaman	2	Persiapan pohon induk	1	Pembuatan dekomposer	1	Penyesuaian bibit pra-tanam	2	Penyulaman	6	Pengumpulan benih dan informasinya
1	Persiapan Lahan & Alat	2	Seleksi Benih	1	Penyiraman	2	Persiapan batang atas dan mata tempel	1	Persiapan alat & bahan	3	Penyiapan tata letak tanam	3	Pembuatan saluran air	2	Perlakuan benih
4	Pembuatan Naungan	2	Perlakuan Benih	2	Pengendalian OPT	1	Praktek menyambung	3	Penghancuran BO	4	Pembuatan lubang tanam	3	Penggemburan tanah	1	Persiapan alat dan tempat
4	Pembuat Pagar dan Para-para	1	Penyemaian Benih	3	Penggemburan Tanah	1	Praktek mencangkok	3	Pembuatan lubang kompos	2	Penanaman	3	Pemupukan BO	6	Pengepakan dan pemberian label
6	Penyiapan Media Tanam/Kompos	3	Pemindahan ke Polibag	2	Penjarangan	1	Praktek penyusuan	2	Pembuatan kompos			2	Pemangkasan	1	Penyimpanan
1	Penyiapan Pengairan			1	Pengaturan Cahaya	1	Praktek stek	4	Penyiraman dan pengadukan					4	Dokumentasi benih (foto, dsb)
						1	Praktek penyisipan								
						1	Praktek okulasi								
						3	Pemeliharaan bibit								
17		10		11		13		14		10		13		20	

7 Norming Good Health & Hygiene

7.1	**Pengantar Norming H&H**	7.2	**Perbaikan Sanitasi & Lingkungan**	7.3	**Air Minum Sehat**	7.4	**Pengelolaan Sampah**	7.5	**Cuci Tangan dg Sabun, dll**
7.1.1	Analisis Isu H & H kb CR Waktu: 1 jam	7.2.1	Analisis Teknis Jamban kb/thh FE * Waktu: 1 jam	7.3.1	Pentingnya Air Sehat kb/thh CR/FE Waktu: 1 jam	7.4.1	Analisis Masalah & Manfaat Sampah kb CR/FE * Waktu: 1 jam	7.5.1	Sabun & Kuman kb CR/FE * Waktu: 1 jam
7.1.2	Penyakit Terkait Air kb/kk CR Waktu: 1 jam	7.2.2	Analisis Saluran Air Kotor kb/thh FE * Waktu: 1 jam	7.3.2	Perlakuan Air Sehat kb/thh CR/FE * Waktu: 3 jam	7.4.2	Membersihkan Lingkungan ToT kb CR/FE * Waktu: 1 jam	7.5.2	Fasilitas Cuci Tangan dg Sabun thh FE * Waktu: 1 jam
		7.2.3	Analisis Lingkungan ToT kb/thh FE * Waktu: 1 jam	7.3.3	Uji Mutu Air Sehat kb/thh CR/FE * Waktu: 3 jam	7.4.3	Praktek Pengelolaan Sampah kb CR/FE * Waktu: 2 jam		
Note	7.1.1 termasuk komponen perilaku bersih dan sehat 7.1.2 malaria, dengue, kulit, diare, hepatitis A, mata dan telinga dll.	Note	7.2 termasuk jamban, saluran air kotor	Note	7.3 termasuk penyimpanan air sehat	Note	7.4 termasuk sampah dapur, pemisahan plastik, pengomposan dan pemanfaatan 7.4.3 ada fasilitas sampah terpisah	Note	7.5.1 termasuk penggunaan abu (dapur) 7.5.2 harus ada fasilitas sabun/abu, handuk, tempat cuci tangan

Note CR- Classroom
FE- Field Exercise
kk- Kelompok Kecil
kb - Kelompok Besar

8 Norming Good Management

8.1	Perencanaan	8.2	Pelaksanaan	8.3	Field Day	8.4	Evaluasi	8.5	Dokumentasi & Pelaporan
8.1.1	Pengantar Tujuan ToT dan SL kb CR * Waktu: 2 jam	8.2.1	Refleksi & Rencana Mingguan kb/TAM CR * Waktu: 1 jam	8.3.1	Perencanaan & Persiapan Field day kk/TAM CR * Waktu: 2 jam	8.4.1	Evaluasi Tengah ToT kb/kk CR/FE * Waktu: 4 jam	8.5.1	Penyusunan Dokumentasi Mingguan kk CR * Waktu: 1 jam
8.1.2	Konsep Norma-norma Pelatihan Kb CR * Waktu: 1 jam			8.3.2	Pelaksanaan Field Day kb/TAM CR * Waktu: 6 jam	8.4.2	Evaluasi Akhir ToT kb/kk CR/FE * Waktu: 6 jam	8.5.2	Penulisan Media ToT kk/TAM CR * Waktu: 1 jam
8.1.3	Fungsi dan Analisis Peran kb CR Waktu: 1 jam							8.5.3	Penyusunan Dokumentasi Akhir kk CR * Waktu: 2 jam
8.1.4	Pembagian Tugas & Alat kb/kk CR Waktu: 1 jam							8.5.4	Penyusunan Dokumentasi Studi kk CR/FE * Waktu: 1 jam
8.1.5	Keuangan & Admin. ToT kb/kk CR Waktu: 2 jam								

Note 8.1: asumsi BHS, ESP, WSM, Agroforestry dan HH dibahas dalam orientasi regional

Note 8.1.1: termasuk pola mingguan

Note 8.1.4: termasuk SOW tiap pihak dan kk, tim manajemen (media, peralatan, kesehatan, akomodasi & konsumsi, olahraga, field trip, dst.)

Note 8.2 Refleksi harian secara informal di dalam kelompok kecil

Note 8.2.1: terhadap materi & manajemen pelatihan & Field trip

Note 8.5.4. dalam bentuk leaflet, koran dinding, poster, dll

Note CR- Classroom
FE- Field Exercise
kk- Kelompok Kecil
kb - Kelompok Besar
TAM - Tim Manajmen & Administrasi

ANNEX 3. AGROFORESTRY TOT – PRELIMINARY BUDGET ESTIMATES

ESP - Agroforestry ToT - Preliminary Budget Estimation

	No. Units	Unit Type	Times	Cost/Unit	Cost	Sub-Total	%/USD
ToT Staff Salaries							
Pemandu ToT I (Ketua ToT)	1	person-month	5	46,000,000	230,000,000		
Pemandu ToT I (Wakil Ketua)	1	person-month	5	20,000,000	100,000,000		
Pemandu ToT (PL II)	6	person-month	5	15,000,000	450,000,000		
Per Diem - Pemandu	8	months	5	200,000	8,000,000		
Petani Pendamping (lokal)	5	person-month	5	2,500,000	62,500,000		
Narasumber	100	person-day	3	2,000,000	600,000,000		
Per Diem - Narasumber	100	days	1	200,000	20,000,000		
					Sub-Total	**1,470,500,000**	31%
Support Staff Salaries							
Office Manager	1	person-month	5	5,000,000	25,000,000		
Accountant	1	person-month	5	3,500,000	17,500,000		
Sectretary	2	person-month	5	2,500,000	25,000,000		
Paramedic	1	person-month	5	5,000,000	25,000,000		
Store Manager	1	person-month	5	2,500,000	12,500,000		
Drivers	3	person-month	5	2,000,000	30,000,000		
Office Assistants	2	person-month	5	2,000,000	20,000,000		
					Sub-Total	**155,000,000**	3%
Peserta ToT							
Peserta - Salaries	30	person-month	4.5	5,000,000	675,000,000		
					Sub-Total	**675,000,000**	14%
Accident & Medical Insurance							
Insurance Premium	47	month	5	300,000	70,500,000		
					Sub-Total	**70,500,000**	1%
Air Travel							
ToT Staff	8	air ticket	2	2,500,000	40,000,000		
Support Staff	4	air ticket	2	2,500,000	20,000,000		
Narasumber	30	air ticket	1	2,500,000	75,000,000		
Peserta - Transport (p-p)	30	air ticket	2	2,500,000	150,000,000		
					Sub-Total	**285,000,000**	6%
Weekly Field Trips							
Transport	2	bus	12	5,000,000	120,000,000		
Equipment & Materials	1	materials	12	400,000	4,800,000		
Food & Drink (incl. hosts)	100	1 meal + snacks	12	20,000	24,000,000		
					Sub-Total	**148,800,000**	3%
Transportation							
Vehicle Rental	3	month	5	15,000,000	225,000,000		
Vehicle Fuel	3	month	5	3,000,000	45,000,000		
Local Transport (microlet)	3	vehicle, driver, fuel	4	3,000,000	36,000,000		
Field Staff Transport (motrocycle)	3	rent m/c, fuel	4	2,000,000	24,000,000		
					Sub-Total	**330,000,000**	7%
Field Day							
Field Day ToT	1	event	1	50,000,000	50,000,000		
Field Day Desa ESP	5	event	1	5,000,000	25,000,000		
					Sub-Total	**75,000,000**	2%
Accommodation & Board							
Accommodation (all incl.)	50	Dorminory	140	50,000	350,000,000		
Food & Drink	50	3 meals + snacks	140	50,000	350,000,000		
Sick Bay	1	equipment	1	10,000,000	10,000,000		
					Sub-Total	**710,000,000**	15%
Equipment & Materials							
Classroom	1	OHP etc.	1	5,000,000	5,000,000		
Team Rooms	6	white boad etc.	1	1,000,000	6,000,000		
Communications (VoIP)	1	sets	5	20,000,000	100,000,000		
Computer (laptop + printer)	15	sets	1	15,000,000	225,000,000		
Photocopier & Toner (rental)	2	sets	5	10,000,000	100,000,000		
Copying Paper	60	ream/month	5	50,000	15,000,000		
Minor Office Equipment	6	sets	1	2,000,000	12,000,000		
GPS & Mapping	6	sets	1	5,000,000	30,000,000		
Digital cameras	10	sets	1	3,000,000	30,000,000		
Documentation	16	paper, pens, etc.	1	1,000,000	16,000,000		
Field Work	5	tspt, snacks, etc.	16	200,000	16,000,000		
Planting Materials	6	seed & seedlings	3	2,000,000	36,000,000		
Nursery Equipment	30	tools, fencing, etc.	1.25	500,000	18,750,000		
Farm Inputs	6	sets	4	1,000,000	24,000,000		
Equipment Maintenance	1	monthly	5	5,000,000	25,000,000		
Compensation for Using Farmer' Land	5	FFS session	5	2,000,000	50,000,000		
					Sub-Total	**708,750,000**	15%
ToT Farmer Field Schools							
Preparations	1	meeting	2	300,000	600,000		
Planting Materials	5	seed & seedlings	1	300,000	1,500,000		
Construction Materials	5	sets	1	3,000,000	15,000,000		
Snacks	125	cost & snack	14	10,000	17,500,000		
Materials & Equipment	5	FFS session	14	100,000	7,000,000		
Field Day	5	mat'l & equip	1	2,000,000	10,000,000		
Compensation Petani FFS	125	sessions	14	20,000	35,000,000		
					Sub-Total	**86,600,000**	2%
					Total	**4,715,150,000**	**512,516**

Post-ToT Follow-up Support (6 ESP Provinces)							
Pemandu ToT I (Ketua ToT)	1	person-month	5	46,000,000	230,000,000		
Pemandu ToT I (Wakil Ketua)	1	person-month	5	20,000,000	100,000,000		
Pemandu ToT II	6	person-month	5	15,000,000	450,000,000		
Per Diem - Pemandu	8	month	5	200,000	8,000,000		
Transportation	8	month	5	5,000,000	200,000,000		
Communications	8	month	5	2,000,000	80,000,000		
Equipment & Materials	8	month	5	1,000,000	40,000,000		
					Sub-Total	**1,108,000,000**	**120,435**
FFS Lapangan							
Preparations	1	meetings	2	300,000	600,000		
Planting Materials	1	set	1	300,000	300,000		
Snacks	25	participant	14	10,000	3,500,000		
Materials & Equipment	1	FFS session	14	100,000	1,400,000		
Field Day	1	set	1	2,000,000	2,000,000		
Compensation Petani FFS	25	person	14	20,000	7,000,000		
					Sub-Total	**14,800,000**	**1,609**
Active Networking							
ESP Trainer's Network per Island (Year 1)							
Preparation	1	meeting	3	300,000	900,000		
Facilities	1	workshop	3	5,000,000	15,000,000		
Travel (v-v)	20	ticket	3	1,500,000	90,000,000		
Accommodation	20	nights	9	200,000	36,000,000		
Materials & Reproduction	1	sets	3	3,000,000	9,000,000		
Communications	1	set	3	2,000,000	6,000,000		
Per Diem	20	night	9	200,000	36,000,000		
					Sub-Total	**192,900,000**	**20,967**
ESP Trainer's Network (Annual Workshop)							
Preparation	1	meeting	1	1,000,000	1,000,000		
Facilities	1	workshop	1	5,000,000	5,000,000		
Travel (v-v)	40	ticket	1	2,000,000	80,000,000		
Accommodation	40	nights	3	200,000	24,000,000		
Materials & Reproduction	1	sets	1	3,000,000	3,000,000		
Communications	1	set	1	2,000,000	2,000,000		
Per Diem	40	night	3	200,000	24,000,000		
					Sub-Total	**139,000,000**	**15,109**
					Total Jawa & Sumatera	**524,800,000**	**57,043**
ToT - Farmer Trainers per Province (2 weeks)							
Pemandu (PL II)	1	month	0.5	15,000,000	7,500,000		
Pemandu ESP	4	month	0	5,000,000	-		
Petani Pemandu	16	day	15	30,000	7,200,000		
Per Diem	21	day	21	50,000	22,050,000		
Transport (v-v)	21	ticket	1	50,000	1,050,000		
Preparations	1	meeting	2	1,000,000	2,000,000		
Planting Materials	1	set	3	200,000	600,000		
Accommodation & Board	21	day	15	75,000	23,625,000		
Materials & Equipment	1	set	1	3,000,000	3,000,000		
					Sub-Total	**67,025,000**	**7,285**
					6 ESP Provinces	**402,150,000**	**43,712**
FFS Lapangan (Petani Pemandu per Province)							
Preparations	1	meetings	2	300,000	600,000		
Honourarium (2 Pemandu)	2	FFS session	16	75,000	2,400,000		
Transport (2 Pemandu)	2	FFS session	16	25,000	800,000		
Planting Materials	1	set	1	300,000	300,000		
Snacks	25	participant	14	10,000	3,500,000		
Materials & Equipment	1	FFS session	14	100,000	1,400,000		
Field Day	1	set	1	2,000,000	2,000,000		
Compensation Petani FFS	25	person	14	20,000	7,000,000		
					Sub-Total	**18,000,000**	**1,957**
					First Cycle 16 FFS	**288,000,000**	**31,304**
Farmer Trainer's Network per Province (Year 1, 1st Cycle)							
Preparations	2	meetings	2	300,000	1,200,000		
Facilities	1	workshop	1	1,000,000	1,000,000		
Travel (v-v)	16	ticket	1	50,000	800,000		
Honourarium Pemandu	16	days	3	75,000	3,600,000		
Accommodation & Board	16	day	2	75,000	2,400,000		
Materials & Reproduction	1	set	1	500,000	500,000		
Communications	1	day	3	100,000	300,000		
Per Diem	16	day	3	50,000	2,400,000		
					Sub-Total	**12,200,000**	**1,326**
					Twice for 1st Cycle FFS	**24,400,000**	**2,652**

ANNEX 4. SELECTING CANDIDATE FOR ESP AGROFORESTRY TOT COURSE

Guidelines for ESP Regional Offices

- Comes from the area in which ESP is or will be working in – but willing to relocate.
- Confident the candidate will work well with the existing team.
- Enthuastic, confident and committed to working with rural communities.

For all candidates:

- Batchelor's degree (S-1) in Agriculture (agronomy, soil science, plant protection) or Forestry (forest management) or Biology (botany) – preferably with extended hands-on experience in rural community work in agroforestry, agriculture or forestry.
  or
  Diploma (D-3) in any of the above areas – preferably with extended hands-on experience in rural community work in agroforestry, agriculture or forestry.
  or
  Equivalent, extended hands-on experience in rural community work in agroforestry, agriculture or forestry;
- Women candidates are encouraged to apply;
- Age, less than 28 years old;
- Healthy and fit;
- Preferably not married;
- Able and willing to work, sometimes for long hours, with members of rural communities;
- Demonstrated experience working with rural/farming communities for extended periods on agroforestry-related activities;
- Demonstrated experience working as a member of a field-work team.

ANNEX 5. ASSESSMENT OF CANDIDATE TRAINING LOCATIONS

Assessment of Candidate Training Locations

Hasil Penjajakan Calon Lokasi Pelatihan

Sukamakmur-Medan - GBKP

Komponen	Kondisi	Keterangan
Jarak dari Medan	Kl 40 km, jalan bagus	Bisa ditempuh kl 1 jam
Lokasi tempat	Luas, pinggir jalan raya, keamanan bagus	Ada beberapa desa sekitar GBKP
Fasilitas Belajar dan penginapan	Ada 5 gedung kapasitas 44 s/d 58 bed, ruang belajar bisa digedung penunjang kapasitas 70 orang. Rate belum disebutkan. Ada 2 hari di bulan Juli dan 2 hari bulan Augustus penginapan sudah dipesan kelompok lain.	Satu kamar bisa untuk 4 dan 6 orang. Sekretariat bisa gunakan gedung penunjang, untuk gudang bisa gunakan ruang cuci, rate penginapan bisa dirundingkan dengan management.
Fasilitas Praktek Lapang	Lahan luas, ada didalam komplek	Perlu selang air untuk menyiram pembibitan
Guest House/cottage	15 kamar masing masing 2 bed	Hanya untuk tinggal, rate berbeda.
Fasilitas Penunjang	Ada fasilitas olah raga, rekreasi mudah, photocopy dekat, kesehatan dekat (kl 3 km), wartel ada di pintu masuk komplek (kl 150 m).	Ada telepon line di tempat latihan bisa digunakan untuk email (bisa dirundingkan dengan management GBKP), HP bisa digunakan
Lahan Praktek di Desa	Ada desa ESP sekitar GBKP, jalan bagus	Untuk 4 SL ada satu atau 2 desa ESP terdekat
Lokasi Lain untuk praktek sekitar GBKP	Ada hutan alami, kebun campuran di lahan kering, kebun campuran dan sawah, tanah kritis, aliran sungai dan mata air.	Cocok untuk melatih peserta di ecosystem yang berbeda.
Bahan-bahan/alat belajar	Bisa dibeli di Medan, ada yang bisa dibeli ditempat sekitar GBKP	Mudah bahan praktek terutama pembibitan, ada nara sumber setempat
Rate per orang	Rp 500.000/malam untuk gedung Karmel kapasitas 44 orang, gedung penunjang, Guest House dan makan bisa dirundingkan	Rate bisa dirundingkan dengan management GBKP

Aceh - BLPP Saree

Komponen	Kondisi	Keterangan
Jarak dari Banda Aceh	Kl 70 km, jalan bagus	Bisa ditempuh kl 1,5 jam
Lokasi tempat	Luas, pinggir jalan raya, keamanan bagus	Ada beberapa desa ESP sekitar BLPP
Fasilitas Belajar dan penginapan	Ada 3 gedung kapasitas s/d 100 orang, ruang belajar 3 unit, Ruang makan 2 unit, Aula besar, Guest House 4 kamar, 1 kamar sering dipakai untuk tamu BLPP. Meja kursi, tersedia lengkap.	Satu kamar bisa untuk 2 orang. Kamar mandi di dalam. Sekretariat bisa gunakan guest house, ada gudang , rate penginapan bisa dirundingkan dengan management. Ada ruangan di guest house bisa dipakai meeting tim pelatih s/d 10 orang.
Fasilitas Praktek Lapang	Lahan luas, ada didalam komplek	Perlu selang air untuk menyiram pembibitan
Guest House/cottage	4 kamar masing masing 2 bed	Hanya untuk tinggal, rate berbeda.
Fasilitas Penunjang	Ada fasilitas olah raga, rekreasi sulit, photocopy dekat, kesehatan dekat (kl 200 m), wartel ada.	Tidak ada telepon line di tempat latihan , HP bisa digunakan
Lahan Praktek di Desa	Ada desa ESP sekitar BLPP, jalan bagus	Untuk 4 SL ada satu atau 2 desa ESP terdekat
Lokasi Lain untuk praktek sekitar BLPP atau daerah lain sebelum BLPP	Ada hutan alami, kebun campuran di lahan kering, kebun campuran dan sawah, tanah kritis, aliran sungai dan mata air.	Cocok untuk melatih peserta di ecosystem yang berbeda. Hutan (Gn seulawah), kebun lahan kering (sekitar desa), lahan sawah (sekitar Janto), DAS (krueng aceh), Mata air (Desa sekitar BLPP)
Bahan-bahan/alat belajar	Bisa dibeli di Aceh, sedikit yang bisa dibeli ditempat sekitar BLPP	Tidak mudah bahan praktek terutama pembibitan, tidak ada nara sumber setempat
Rate per orang berdasarkan paket	ESP (project yang lain) Rp 125.000, /malam, termasuk 3 kali makan, 2 kali snacks + kopi, nginap dan fasilitas belajar. Rate itu bisa dirundingkan dengan management.	Rate bisa dirundingkan dengan management BLPP.
Catatan:	Jika TOT dilaksanakan di Aceh, BLPP diminta mengecat ulang kamar tidur, dan kamar mandi.	

Magelang, Jawa Tengah - KIPPK

Komponen	Kondisi	Keterangan
Jarak dari Magelang	15 km, jalan bagus	Ditempuh kl 0,5 jam
Keadaan lokasi	Luas, pinggir jalan raya, keamanan bagus	Terletak di pemukiman penduduk
Fasilitas Belajar	Asrama bisa 36 org, 2 orang/kamar, ruang belajar 1 kelas, aula umum 1 kelas, ruang makan 1 buah	Kamar mandi tiap kamar 1 unit
Fasilitas praktek lapang	Lahan luas di pinggir komplek	Saat ini masih ditanami padi
Guest House	Ada dan bagus	Bisa digunakan untuk pemandu TOT
Fasilitas penunjang	Dekat tempat rekreasi, listrik ada. Puskesmas ada, potocopy ada, wartel ada (kl 200 m) dari komplek.	Telepon line di komplek, HP bisa digunakan, sarana olah raga ada
Lahan praktek di desa	Ada desa pilihan sekitar kantor, ada beberapa desa lain diluar sebagai calon kegiatan ESP	Untuk SL, ada beberapa desa bisa digunakan untuk praktek peserta. Perlu kendaraan untuk bawa peserta
Lokasi lain untuk praktek sekitar KIPPK	Ada kebun masyarakat, kebun campuran lahan kering, sawah dan hutan, tanah kritis, aliran sungai, mata air.	Sangat cocok untuk melatih peserta di type ekosistem yang berbeda
Bahan-bahan/alat belajar	Alat tulis dan lainnya mudah didapat dilokasi atau di kota magelang	Mudah mendapatkan bahan praktek pembibitan, kebun, AES/WSM. Banyak tersedia nara sumber ahli pembibitan
Rate per orang	Belum dibicarakan	Belum dibicarakan

ANNEX 6.
SAMPLE FIELD GUIDE

1. SOIL WATER-HOLDING CAPACITY

1.1. BACKGROUND

A clearly important characteristic of a soil is its ability to hold water. One problem with a coarse sandy soil is that water (and nutrients) are rapidly lost from the soil. One of the important qualities of Soil Organic Matter is that it helps to retain water. To demonstrate this to farmers is a simple exercise that should help promote the use of compost and mulch for vegetable and soybean farmers.

Soil pores play a major role in water and air movement. Also, soil microorganisms reside in pores. Coarse-textured (sandy) soils have less total pore space (higher "bulk density") than do fine-textured (clay) soils (35% to 50% for sandy versus 40% to 60% for clay). The size of the pores, however, is just as important as the total quantity of pore space. Two classes of pre sizes are recognized: ***macropores*** and ***micropores***. The minimum diameter of a macropore is considered to be between 30 and 100 microns (recall 1 micron is 10^{-6} mm or the size of a bacteria). Pores smaller than this are considered micropores.

Macropores characteristically allow the rapid movement of soil gases and soil water. Sandy soils have less total pore space, but those spaces are mostly macropores; thus, sandy soils usually drain rapidly. In contrast, clayey soils have more total pore space, but these spaces are mostly micropores and drain more slowly. Thus, sandy soils have a relatively low water-holding capacity and clayey soils relatively high water-holding capacity.

When a soil is saturated with water and the water is allowed to drain freely, the water drains only from the soil macropores. This is "gravitational water" and is of little use to plants because it reduces soil aeration. When the macropores have drained, now the soil is at ***"field capacity"***. Most soil micropores are still full of water, which is available for plant growth. When a plant uses all of this water and the micropores are empty, almost all water remaining in the soil is ***hygroscopic water***, that is, water that is bound too tightly to the soil solids for plants to use. At this point, plants permanently wilt and do not recover, even when water is added. This is the ***permanent wilting point***.

1.2. GOAL

To learn how to measure the differences the capacity of different soils to retain moisture.

1.3. TIME REQUIRED

60 minutes

1.4. MATERIALS

1.4.1. FOR EACH SMALL GROUP:

- 3 plastic 1 L water bottles
- 3 pieces of cheese cloth or loose-weave organdy (8 cm x 8 cm)
- 3 rubber bands
- twine
- sharp knife
- colored permanent marking pen
- 3 clear plastic cups or glasses
- balance scale

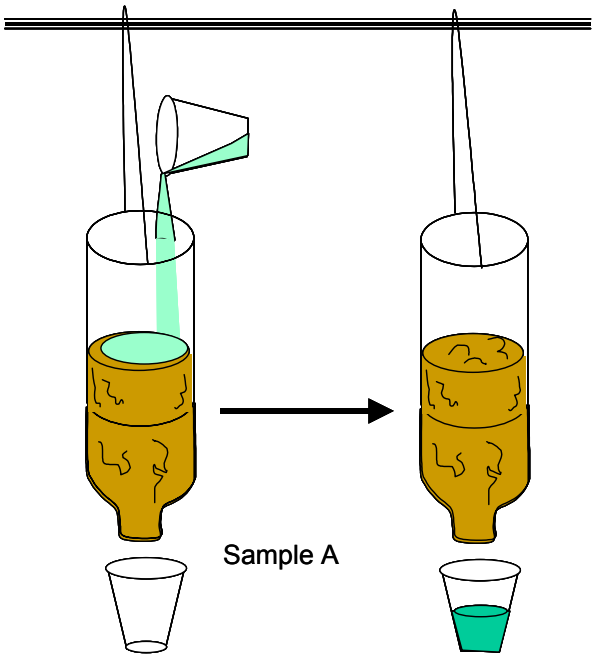
1.4.2. STEPS

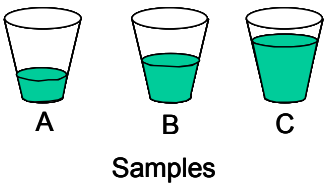
1. Take a quantity of soil and spread it out on a plastic sheet in the sun to let it air dry for a day or two. Choose soils from three locations: a) poor and sandy soil, b) local farm soil c) compost or soil rich in organic matter.
2. Dry the soil overnight under a fan, or for several hours spread out under the sun (same procedure for water-holding capacity)
3. Cut the bottom off each of the plastic water bottles. Turn bottles upside-down and put the loose-weave square of cloth into the neck area of the bottle from the inside, or tie the cloth over the top of the bottle with a rubber band or twine.
4. weigh out a fixed amount of soil for each bottle (somewhere between 300 to 600 gm) of each type of soil and place it in the inverted bottles
5. Suspend inverted bottle above plastic cups (hanging by twine from pole).
6. Take a plastic cup and fill it full of water; then add it to the soil in each bottle. Do some other activity and return when water has passed completely through all samples. If one of the bottles has absorbed all the water, but none has passed through into the cup, you will need to add water, the same ***to each of all three samples*** (in order to be able to compare the results at the end).
7. After all samples have drained completely, line up the cups side-by-side and compare the results.

1.4.3. QUESTIONS

1. Which of the soils holds the most water?
2. Are there any differences in the color of the water? What does this indicate?
3. What factors do you think are responsible for holding more or less water?
4. Why is water-holding capacity important?
5. Is there a relationship between water-holding capacity and structure?
6. How can you best improve the water-holding capacity of your soil?

Water Holding Capacity





ANNEX 7 .
TRAINING OF TRAINERS (TOT) LESSON PLANS

LESSON PLANS

1. Pembibitan dan Penanaman
Topic 1.1.1

Title:	Penjelasan Tujuan dan Bentuk Kegiatan	Code:	1.1.1
Location:	TOT		
Duration:	1x 1 jam		
Goal:	Memahami Tujuan Pembibitan		
Objectives:	• Mengerti proses kegiatan pembibitan di FTF • Mengerti proses kegiatan pembibitan di masyarakat • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.1.2

Title:	Prinsip Utama Membuat Pembibitan	Code:	1.1.2
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Paham prinsip membuat pembibitan		
Objectives:	• Mengerti dasar dan konsep pembuatan pembibitan di FTF • Mampu membuat pembibitan di FTF • Mengerti dasar dan konsep pembuatan pembibitan di masyarakat • Mengerti cara membuat pembibitan bersama masyarakat		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.1.3

Title:	Pengorganisasian Pembibitan Masyarakat	Code:	1.1.3
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami cara mengorganisasi masyarakat		
Objectives:	• Mengerti konsep dasar pengorganisasian masyarakat • Mengerti maksud dan tujuan pembibitan berbasis masyarakat • Mengerti cara melaksanakan pembibitan berbasis masyarakat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.1.4

Title:	Pemilihan Lokasi Pembibitan	Code:	1.1.4
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Terampil memilih tempat pembibitan yang baik		
Objectives:	• Mampu membuat criteria tempat pembibitan • Mampu memilih tempat pembibitan • Mampu mengelola pembibitan di FTF • Mampu mengelola pembibitan di masyarakat		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 1.1.5

Title:	Persiapan Lahan dan Alat Pembibitan	Code:	1.1.5
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil menyiapkan Alat/Bahan dan Lahan Pembibitan		
Objectives:	• Mengerti syarat lahan pembibitan yang baik • Mampu menyusun alat/bahan yang diperlukan • Mengerti kegunaan alat yang diperlukan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.1.6

Title:	Pengelolaan Pengairan (berdasarkan media tumbuh)	Code:	1.1.8
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil mengairi bibit pada media tumbuh yang berbeda		
Objectives:	• Mengerti karakteristik media tumbuh dan keperluan air • Mampu melakukan sesuai dengan keperluan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.1.7

Title:	Pengaturan Naungan	Code:	1.1.7
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil mengelola naungan bibit		
Objectives:	• Memahami dampak naungan terhadap bibit • Mengerti cara memilih bahan naungan yang cocok • Mampu membuat naungan dengan baik •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 1.1.8

Title:	Perlakuan dan Penyiapan Media Tumbuh (test PH, dll)	Code:	1.1.8
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Terampil meyiapkan dan melakukan perlakuan media tumbuh		
Objectives:	• Mengerti cara memilih media tumbuh yang baik • Mengerti pentingnya media tumbuh • Mampu melakukan perlakuan (treatment) media tumbuh • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.2.1

Title:	Teknik Sambungan & Dampak	Code:	1.2.1
Location:	FTF		
Duration:	1 x 1 jam		
Goal:	Terampil dengan teknik sambungan		
Objectives:	• Mengerti cara memilih bagian pohon/tanaman yang baik • Mengerti cara menmyambung yang benar • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.2.2

Title:	Teknik Cangkokan	Code:	1.2.2
Location:	FTF		
Duration:	2 x 1 jam		
Goal:	Terampil melakukan teknik cangkok		
Objectives:	• Mengerti cara memilih pohon/cabang yang baik • Mampu melakukan pengeratan dan pembungkusan yang benar • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.2.3

Title:	Teknik Penyusuan	Code:	1.2.3
Location:	FTF		
Duration:	2 x 1 jam		
Goal:	Terampil melakukan teknik penyusuan		
Objectives:	• Mengerti cara memilih pohon/cabang yang baik • Mampu melakukan penyusuan dengan benar • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.2.4

Title:	Teknik Penyetekan	Code:	1.2.4
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil melakukan teknik stek		
Objectives:	• Mengerti cara memilih pohon/tanaman yang dapat di stek • Mengerti cara memilih bagiam pohon/tanaman yang cocok • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.2.5

Title:	Teknik Penyisipan	Code:	1.2.5
Location:	FTF		
Duration:	2 x 1 jam		
Goal:	Terampil melakukan teknik penyisipan		
Objectives:	• Mengerti cara memilih pohon/dahan yang baik • Mampu melakukan penyisipan dengan benar • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.2.6

Title:	Teknik Okulasi	Code:	1.2.6
Location:	TOT		
Duration:	2 x 2 jam		
Goal:	Terampil melakukan teknik okulasi		
Objectives:	• Mengerti cara memilih batang bawah yang baik • Mampu mengerat mata tempel dengan tepat • Mampu menempel mata dengan benar •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.3.1

Title:	Identifikasi Sumber Benih Sehat	Code:	1.3.1
Location:	Luar FTF		
Duration:	2 x 2 jam		
Goal:	Terampil memilih sumber benih sehat		
Objectives:	• Mengerti ciri dan sifat pohon induk yang baik • Mengerti cara menyeleksi pohon induk benih dengan benar • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 1.3.2

Title:	Teknik Koleksi & Seleksi benih dan Mata tempel	Code:	1.3.2
Location:	Luar TOT		
Duration:	2 x 4 jam		
Goal:	Terampil mengumpulkan dan menyeleksi benih		
Objectives:	• Mengerti cara mengumpulkan benih dengan benar • Mengerti cara mengumpulkan mata tempel dengan benar • Mengerti cara memilih benih dan mata tempel dengan benar •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.3.3

Title:	Perlakuan Benih dan Mata Tempel	Code:	1.3.3
Location:	TOT dan luar TOT		
Duration:	2 x 2 jam		
Goal:	Terampil merawat benih dan mata tempel		
Objectives:	• Mengerti teknik perlakuan dan cara merawat benih sebelum disemai • Mengerti cara merawat dan menyimpan mata tempel dengan benar • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.3.4

Title:	Uji Mutu Benih & Perkecambahan	Code:	1.3.4
Location:	TOT		
Duration:	2 x 2 jam		
Goal:	Terampil mengecambahkan benih		
Objectives:	• Mengerti teknik perkecambahan benih • Mengerti cara merawat benih yang berkecambah • •		
Linkages:	• •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

Topic 1.4.1

Title:	Analisa Gejala & Penyebab Kerusakan	Code:	1.4.1
Location:	TOT		
Duration:	2 x 2 jam		
Goal:	Terampil mengendalikan Hama dan Penyakit		
Objectives:	• Mampu mengidentifikasi gejala kerusakan • Mampu menganalisa penyebab kerusakan • Mampu menganalisa cara penularan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 1.4.2

Title:	Kesimpulan dan Tindakan	Code:	1.4.2
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil melakukan tindakan yang tepat		
Objectives:	• Mampu merumuskan alternative tindakan • Mampu mengaplikasikan dilapangan • Mampu menganalisa hasil tindakan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.5.1

Title:	Biologi Tanaman	Code:	1.5.1
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami Physiologi Bibit		
Objectives:	• Mengerti physiologi tanaman secara umum • Mengerti karakteristik tanaman bibit • Memahami pengelolaan tanaman yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.5.2

Title:	Physiologi Tanaman Pohon	Code:	1.5.2
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami Physiologi Tanaman Keras		
Objectives:	• Mengerti sipat dan karakteristik tanaman keras A/F • Mengerti cara mengelola tanaman secara tepat • Memahami pengelolaan tanaman yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.5.3

Title:	Physiologi Tanaman Rumput	Code:	1.5.3
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami Physiologi Tanaman Rumput		
Objectives:	• Mengerti sipat dan karakteristik tanaman rumput • Mengerti cara mengelola tanaman secara tepat • Memahami pengelolaan tanaman yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.5.4

Title:	Physiologi Tanaman Ubi-Ubian	Code:	1.5.4
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami Physiologi Tanaman Ubi-Ubian		
Objectives:	• Mengerti sipat dan karakteristik tanaman Ubi-Ubian • Mengerti cara mengelola tanaman secara tepat • Memahami pengelolaan tanaman yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.6.1

Title:	Ekologi Tanah & Pengelolaan Lahan	Code:	1.6.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Mengerti Prinsip Ekologi Tanah (living soil principles)		
Objectives:	• Mengerti sipat, prinsip dan karakteristik fisik tanah • Mengerti kimia dan biologi tanah secara sederhana • Mengerti cara pengelolaan lahan yang berkelanjutan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.6.2

Title:	Pengantar Kompos dan Pupuk Organik	Code:	1.6.2
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Paham cara membuat dan memaanpaatkan kompos dan pupuk organik		
Objectives:	• Mengetahui jenis bahan baku kompos yang diperlukan • Mengetahui jenis pupuk organic yang bisa dipakai • Mengerti cara membuat kompos dan pemanpaatan keduanya • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.6.3

Title:	Praktek Pembuatan Kompos	Code:	1.6.3
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil membuat kompos		
Objectives:	• Mengerti jenis dan perbandingan bahan yang tepat • Mengerti cara pembuatan secara terinci • Mengetahui kompos yang siap pakai •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.6.4

Title:	Praktek Pemanpaatan Kompos	Code:	1.6.4
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil menggunakan dengan tepat		
Objectives:	• Mengetahui takaran atau jumlah sesuai dengan keperluan • Mengetahui saat pemakaian dengan tepat • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.7.1

Title:	Penyesuaian Bibit	Code:	1.7.1
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil menyiapkan bibit		
Objectives:	• Mengerti pentingnya penguatan bibit sebelum ditanam • Mengerti cara penguatan yang cocok di lapangan • Mampu menganalisa pengaruh perlakuan terhadap kualitas bibit •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.7.2

Title:	Persiapan Lubang Tanam	Code:	1.7.2
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil menyiapkan lubang tanam		
Objectives:	• Mengerti cara pembuatan lubang tanam • Mengetahui kesesuaian lubang tanam dengan jenis tanaman • Mampu menganalisa keperluan bibit per satuan luas •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.7.3

Title:	Menanam Bibit	Code:	1.7.3
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil menanam		
Objectives:	• Mengerti cara meletakan bibit • Mengerti cara pengarugan dengan benar • Mengerti cara melindungi bibit baru ditanam •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.7.4

Title:	Perawatan Tanaman Muda	Code:	1.7.4
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Terampil merawat tanaman muda		
Objectives:	• Mengerti karakteristik tanaman muda • Mengerti cara merawat tanaman muda • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 1.7.5

Title:	Fase Kritis Tanaman Muda	Code:	1.7.5
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami phase kritis tanaman muda		
Objectives:	• Mengetahui berbagai phase tumbuh tanaman muda • Mengetahui karakteristik setiap phase tumbuh • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

2. Pengelolaan Kebun

Topic 2.1.1

Title:	System Kebun Agro-Forestry	Code:	2.1.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Memahami berbagai bentuk dan system kebun Agro-Forestry		
Objectives:	• Mengetahui karakteristik jenis - kebun agroforestri • Mengerti manpaat masing-masing kebun • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.1.2

Title:	Analisis Kalender Kebun	Code:	2.1.2
Location:	Kebun petani		
Duration:	1 x 2 jam		
Goal:	Terampil Menganalisa perilaku usaha tani petani		
Objectives:	• Mengetahui pola tanam dan pola panen • Mengerti periode untung dan pola paceklik • Mengerti periode kritis kehidupan petani • Mengerti alternative terbaik menata kebun		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.1.3

Title:	Analisa Ekonomi Kebun	Code:	2.1.3
Location:	Kebun		
Duration:	1 x 2 jam		
Goal:	Memahami kecenderungan perilaku petani		
Objectives:	• Mengerti dasar pertimbangan berusaha tani • Mengerti kecenderungan usaha tani • Mengerti kesulitan dan peluang usaha • Mampu membuat pilihan untuk jangka panjang		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.2.1

Title:	Mengkaji Sistem Pengelolaan Kebun	Code:	2.2.1
Location:	Kebun Petani		
Duration:	1 x 3 jam		
Goal:	Terampil mengkaji system pengelolaan kebun		
Objectives:	• Mengerti pola pengelolaan kebun hubugannya dengan fungsi air, ekonomi, keragaman hayati, pencegahan erosi, pangan keluarga, dan hasil non kayu • Mampu mengkaji pola interaksi pada bentuk kebun yang berbeda • Mampu merumuskan pola yang cocok untuk bentangan lahan yang berbeda •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.2.2

Title:	Tata Letak Tanaman	Code:	2.2.1
Location:	Kebun Petani		
Duration:	2 x 2 jam		
Goal:	Terampil mengatur tata letak tanaman		
Objectives:	• Mengerti cara pengaturan tanaman berdasarkan karakteristik species yang ditanam • Mampu merumuskan pengaturan tanaman berdasarkan kontur lahan • Mampu merumuskan pengaturan tanaman pada skala tangkapan mikro •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.2.3

Title:	Kesesuaian Ekologi & Kombinasi Tanaman	Code:	2.2.3
Location:	Kebun Petani		
Duration:	2 x 3 jam		
Goal:	Terampil merancang kebun sesuai konsep ekologi		
Objectives:	• Mengerti cara berkebun yang sesuai ekologi lokal • Mampu mengidentifikasi dan merumuskan komponen penting kebun sesuai lingkungan local • Memahami hambatan yang muncul dari setiap bentuk kebun yang berbeda •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.3.1

Title:	Prinsip dan Tujuan Analisa AES	Code:	2.3.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Memahami prinsip dan tujuan AES		
Objectives:	• Mengerti prinsip dasar pelaksanaan AES • Menegerti tujuan melakukan AES • Mampu menyimpulkan kegunaan AES •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.3.2

Title:	Analisa AES Dasar	Code:	2.3.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Memahami konsep praktis AES		
Objectives:	• Mengerti berbagai komponen AES • Mengerti interaksi antar komponen AES • Mengerti paktor yang berpengaruh dalam interaksi AES •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.3.3

Title:	Praktek AES Dilingkungan TOT	Code:	2.3.3
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil melakukan AES		
Objectives:	• Memahami procedure yang harus dilakukan • Mampu menuangkan kedalam ilustrasi/gambar AES • Mampu menganalisa paktor dan peranan komponen AES dilapangan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.3.4

Title:	Melakukan AES di Kebun	Code:	2.3.4
Location:	TOT		
Duration:	1 x 4 jam		
Goal:	Terampil melakukan AES di Kebun		
Objectives:	• Memahami komponen AES pada lahan kebun • Mampu menganalisa interaksi antar komponen dan akibatnya • Mampu merinci tindakan yang diperlukan untuk perbaikan kebun •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.3.5

Title:	Keragaman Hayati Kebun	Code:	2.3.5
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil menganalisa keragaman hayati		
Objectives:	• Mampu mengidentifikasi komponen penyusun • Memahami pungsi dan pola interaksi komponen • Mampu menyimpulkan manpaat keragaman komponen •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.4.1

Title:	Tindak Lanjut Kesimpulan AES	Code:	2.4.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil merencanakan tindak lanjut		
Objectives:	• Mampu mengidentifikasi kegiatan lapangan • Mampu mengelola pilihan kegiatan dengan benar • Mampu menganalisa hasil kegiatan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.4.2

Title:	Nilai Unsur – Unsur Kebun	Code:	2.4.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Memahami nilai unsur kebun		
Objectives:	• Mengetahui hubungan antar unsur kebun • Mengetahui nilai penting setiap unsur kebun • Mengetahui manpaat seluruh unsur kebun •		
Linkages:	• • •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.4.3

Title:	Analisa SWOT Kebun	Code:	2.4.3
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mampu melakukan SWOT kebun		
Objectives:	• Mengetahui paktor kekuatan sebagai modal utama • Mengetahui kelemahan sebagai paktor penghambat • Mengetahui cara memanpatkan dan kesempatan dan peluang •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.4.4

Title:	Strategi Perbaikan Kebun	Code:	2.4.4
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mampu merencanakan perbaikan kebun		
Objectives:	• Mengetahui kondisi dan nilai kebun • Memahami peluang produksi yang dapat dicapai • Mengetahui cara perbaikan yang tepat • Mengetahui pasar dan nilai ekonomi produksi		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.4.5

Title:	Pengambilan Keputusan Keluarga	Code:	2.1.4
Location:	Keluarga Petani		
Duration:	1 x 2 jam		
Goal:	Terampil memfasilitasi keputusan keluarga		
Objectives:	• Mengerti cara melaksanakan fasilitasi secara terinci • Mampu menganalisa hambatan dalam proses • Mampu membantu merumuskan keputusan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.5.1

Title:	Prinsip Konservasi dan Tujuan	Code:	2.5.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Mengerti prinsip dan tujuan konservasi		
Objectives:	• Mengerti prinsip umum konservasi • Mengerti tujuan umum konservasi • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.5.2

Title:	Erosi dan Sedimentasi	Code:	2.5.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Memahami Erosi dan Sedimentasi		
Objectives:	• Mengetahui paktor penyebab erosi dan sedimenatsi • Mengetahui cara menganalisa dampak erosi dan sedimentasi • Mengetahui strategi pengendalaian erosi dan sedimentasi •		
Linkages:	• • •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.5.3

Title:	Ekplorasi & Diskusi Bentuk Kebun	Code:	2.5.3
Location:	TOT		
Duration:	1 x 3 jam		
Goal:	Terampil mengidentifikasi hubungan bentuk kebun, Erosi dan sedimentasi		
Objectives:	• Mampu menganalisa kemiringan, bentuk kontur, teras, bangunan air dan pola tanam kebun • Mempu menganalisa dampak pengelolaan terhadap erosi dan sedimentasi • Mampu mengidentifikasi langkah perbaikan yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.5.4

Title:	Porositas dan Koloid Tanah	Code:	2.4.5
Location:	TOT		
Duration:	2 x 1,5 jam		
Goal:	Terampil menganalisa porositas dan koloid tanah		
Objectives:	• Mengerti apa itu koloid dan porositas tanah • Memahami cara melakukan kegiatan secara rinci • Memahami kegunaan porositas dan koloid •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.5.5

Title:	Fungsi Seresah dan Cacing Tanah	Code:	2.4.6
Location:	TOT		
Duration:	2 x 1,5 jam		
Goal:	Memahami kegunaan seresah dan cacing tanah		
Objectives:	• Mengerti seresah sebagai salah satu produk pohon yang berguna • Mengerti hubungan seresah dan kehidupan organisme lain • Memahami hubungan seresah, cacing dengan kesuburan tanah dan pencegahan erosi •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.5.6

Title:	Mulsa Organik	Code:	2..4.7
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Memahami keguanaan mulsa		
Objectives:	• Mengenal berbagai bentuk mulsa organic		
	• Mengetahui pungsi mulsa dengan kesuburan tanah, pencegahan erosi, kelembaban tanah, penyediaan pupuk organic		
	• Mengetahui ketepatan waktu perlakuan dan pemakain mulsa		
	•		
Linkages:	•		
	•		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.5.7

Title:	Pemilihan & Teknik Konservasi	Code:	2..4.7
Location:	Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami cara memilih teknik konservasi		
Objectives:	• Memahami kesesuaian teknik, jenis tanah dan bentuk bentangan lahan • Mampu menentukan teknik yang cocok berdasarkan pertimbangan local • Mengetahui ketepatan waktu kegiatan • Mengetahui hambatan yang muncul dari pilihan teknologi		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.6.1

Title:	Penjarangan dan Pemangkasan	Code:	2.5.1
Location:	Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami manpaat penjarangan dan pemangkasan tanaman		
Objectives:	• Mengetahui cara seleksi tanaman untuk penjarangan • Mengetahui teknis penjarangan tanaman • Mengetahui teknis pemangkasan tanaman yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.6.2

Title:	Analisa Gejala kekurangan Hara	Code:	2.6.2
Location:	TOT dan Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami perbaikan hara tanaman		
Objectives:	• Mengenal ciri tanaman kekurangan hara • Mengetahui unsur hara pokok yang diperlukan tanaman • Mengerti cara perbaikan hara secara tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.6.3

Title:	Metoda Perbaikan Kesuburan Tanah	Code:	2.6.3
Location:	TOT dan Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami Teknik Perbaikan Kesuburan Tanah		
Objectives:	• Mengenal ciri tanah tidak subur • Mengetahui paktor penyebab penurunan kesuburan • Mengetahui berbagai cara perbaikan kesuburan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.6.4

Title:	Sistim Pengelolaan Air di Kebun	Code:	2.6.4
Location:	TOT dan Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami Pengelolaan Air di Kebun		
Objectives:	• Mengetahui sumber air untuk keperluan kebun • Mengetahui cara pemanpaatan sumber air • Mengerti cara penyimpanan air yang tepat •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.6.5

Title:	Penyulaman dan Pembumbunan Tanaman	Code:	2.6.5
Location:	Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami Pentingnya Penyulaman dan Pembumbunan		
Objectives:	• Mengetahui waktu penyulaman dan pembubunan yang tepat • Mengerti manpaat pembumbunan tanaman • Mengerti cara melakukan pembumbunan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.7.1

Title:	Analisa Gejala Kerusakan	Code:	2.6.1
Location:	TOT dan Luar TOT		
Duration:	1 x 2 jam		
Goal:	Terampil menganalisa gejala kerusakan		
Objectives:	• Mengerti perbedaan gejala kerusakan oleh OPT dan Non OPT (defisiensi, kerusakan secara phisik, dll) • Mengetahui cara membedakan gejala kerusakan secara visual • Memahami paktor pendukung timbulnya kerusakan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.7.2

Title:	Analisa Penyebab Kerusakan	Code:	2.7.2
Location:	TOT dan Luar TOT		
Duration:	1 x 2 jam		
Goal:	Terampil menganalisa gejala kerusakan		
Objectives:	• Mengerti perbedaan gejala kerusakan oleh OPT dan Non OPT (defisiensi, kerusakan secara phisik, dll) • Mengetahui cara membedakan gejala kerusakan secara visual • Memahami paktor pendukung timbulnya kerusakan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.7.3

Title:	Kesimpulan dan Tindakan Pengendalian	Code:	2.7.3
Location:	TOT dan Luar TOT		
Duration:	1 x 2 jam		
Goal:	Terampil melakukan tindakan pengendalian yang tepat		
Objectives:	• Mampu menyusun metoda pengendalian secara terpadu • Mampu mengevaluasi hambatan dan hasil tindakan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.8.1

Title:	Analisa Faktor-faktor Penting	Code:	2.8.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Memahami interaksi unsur penting pasaran kebun		
Objectives:	• Mengetahui sistim dan ruang lingkup interaksi unsur pemasaran hasil kebun • Mengetahui peranan tiap unsur dalam pemasaran hasil kebun • Mengetahui peluang pasar hasil kebun •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.8.2

Title:	Analisa Supply – Demand Pasar	Code:	2.8.2
Location:	Luar TOT		
Duration:	1 x 3 jam		
Goal:	Mengetahui paktor yang mempengaruhi supply – demand		
Objectives:	• Mengenal paktor yang mempengaruhi pluktuasi supply – demand • Mengetahui pengaruh supply – demand terhadap pendapatan petani • Mengetahui pola waktu pluktuasi supply – demand pada salah satu komoditi kebun •		
Linkages:	• •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

Topic 2.8.3

Title:	Analisa Trend Pasar	Code:	2.8.3
Location:	Luar TOT		
Duration:	1 x 3 jam		
Goal:	Mengetahui pemicu berbagai kecenderungan pasaran hasil		
Objectives:	• Mengetahui dampak sikap pelaku pasar terhadap nilai komiditas • Mengetahui sikap antisipasi produsen terhadap kecenderungan pasar • Mengetahui pengaruh kecenderungan pasar terhadap pola pikir petani •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.8.4

Title:	Analisa Rantai Pasar	Code:	2.8.4
Location:	Luar TOT		
Duration:	1 x 3 jam		
Goal:	Mengetahui Rantai Pasar produk		
Objectives:	• Mengenal mata rantai pemasaran produk • Mengetahui peran setiap posisi mata rantai pemasaran • Mengetahui sikap pandangan setiap mata rantai pemasaran •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 2.8.5

Title:	Prospek NTFP	Code:	2.8.5
Location:	Luar TOT		
Duration:	1 x 3 jam		
Goal:	Mengenal Prospek Pemasaran NTFP		
Objectives:	• Mengenal produk NTFP yang laku dipasaran • Mengetahui nilai ekonomi setiap NTFP yang diperdagangkan • Mengetahui nilai tambah NTFP terhadap perbaikan petani •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 2.8.6

Title:	Pemilihan Tanaman Sesuai Kebutuhan Keluarga	Code:	2.8.6
Location:	TOT dan Luar TOT		
Duration:	1 x 3 jam		
Goal:	Memahami Kebutuhan Petani		
Objectives:	• Mengetahui jenis tanaman yang sesuai kebutuhan keluarga • Mengetahui nilai tambah setiap pilihan terhadap peningkatan pendapatan • Mengetahui input yang harus disediakan • Mengetahui resiko dan keuntungan yang mungkin terjadi		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

3. Facilitation & Networking

Topic 3.1.1

Title:	Analisa Kemampuan Pemandu Latihan	Code:	3.1.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Memiliki Kemampuan sebagai Pemandu Latihan		
Objectives:	• Mengetahui profil sebagai pemandu yang ideal • Mampu mengidentifikasi kemampuan dasar pemandu • Mampu menganalisa kemampuan dan kelemahan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.1.2

Title:	Sikap dan Ketrampilan Pemandu Latihan	Code:	3.1.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mengerti Sikap dan Keterampilan Pemandu yang diperlukan		
Objectives:	• Mampu melakukan penaksiran kebutuhan latihan • Memahami beberapa sikap dan ketrampilan yang harus dimiliki pemandu latihan • Memahami tindakan yang perlu di dilakukan dan yang perla dihindari •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic - 3.1.3

Title:	Penaksiran Kebutuhan Latihan	Code:	3.1.3
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil meperkirakan kebutuhan latihan		
Objectives:	• Mampu mengidentifikasi materi inti kebutuhan latihan • Mampu mengidentifikasi materi penunjang kebutuhan latihan • Mampu menentukan kegunaan dan manfaat keduanya • Mampu menentukan sarana dan prasarana pendukung latihan • Mampu meperkirakan kebutuhan waktu pelatihan		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.1.4

Title:	Falsafah & Teori Dasar Pelatihan	Code:	3.1.4
Location:	TOT		
Duration:	2 x 1 jam		
Goal:	Memahami Falsapah dan Teori dasar Pelatihan		
Objectives:	• Mengerti perbedaan filosofi andragogi dan pedagogi • Mengerti tiga model pendekatan pendidikan • Memahami prinsip-prinsip pendidikan orang dewasa •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

3.2. Metoda Pelatihan

Topic - 3.2.1

Title:	Prinsip Dasar Metodologi Pelatihan	Code:	3.2.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Mengerti prinsip dasar metodologi pelatihan		
Objectives:	• Memahami pentingnya metodologi pelatihan • Mengerti cara penerapan metodologi pelatihan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 3.2.2

Title:	Cakupan dan Unsur Pokok Metodologi Pelatihan	Code:	3.2.2
Location:	TOT		
Duration:	1 x 3 jam		
Goal:	Mengerti lima unsur pokok metodologi pelatihan		
Objectives:	• Memahami pentingnya proses daur relajar • Mengenal beberapa bentuk metodologi pelatihan • Mampu mengidentifikasi sarana pelatihan yang diperlukan • Mampu menentukan tujuan/isi penggunaan metodologi pelatihan • Mengetahui peran-peran pemandu pelatihan		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.2.3

Title:	Penyajian dan Analisa Metodologi Latihan (Praktek Memandu)	Code:	3.2.3
Location:	TOT		
Duration:	1 x 4 jam		
Goal:	Terampil dalam proses penyajian dan analisa metodologi pelatihan		
Objectives:	• Mengerti beberapa contoh penyajian metodologi pelatihan melalui praktek pengalaman berstuktur • Mampu menganalisa contoh penyajian metodologi pelatihan berdasarkan unsur-unsur pokok metodologi pelatihan • Mampu menerapkan pada latihan lanjutan •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.2.4

Title:	Praktek Menyusun Petunjuk Lapangan	Code:	3.2.4
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil Menyusun Petunjuk Lapangan		
Objectives:	• Mampu membuat petlap pelatihan yang sesuai dengan unsur-unsur metodologi pelatihan • Mampu memandu kegiatan menggunakan petlap yang telah disusun • Mampu menganalisa proses memandu dengan petlap yang telah disusun • Mampu memperbaiki sesuai kebutuhan		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

3.3. Kerjasama

Topic - 3.3.1

Title:	Prinsip Dasar Kerjasama	Code:	3.3.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mengerti Prinsip Dasar Kerjasama Kelompok		
Objectives:	• Mengetahui cara menumbuhkan kerjasama • Mengenal contoh prinsip kerjasama • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.3.2

Title:	Faktor Penghambat dan Penunjang	Code:	3.3.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mengetahui factor penghambat dan penunjang bekerjasama		
Objectives:	• Mampu mengidentifikasi hambatan dukungan proses kerjasama • Mampu menumbuhkan sikap saling percaya • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic - 3.3.3

Title:	Pembentukan Kerjasama	Code:	3.3.3
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Mengerti Langkah pembentukan Kerjasama		
Objectives:	• Mampu mengidentifikasi komponen pembentukan suasana • Mampu mempraktekkan proses pembentukan kerjasama • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

3.4. Kreativitas

Topic – 3.4.1

Title:	Prinsip Dasar Kreativitas	Code:	3.4.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Memahami prinsip kreativitas		
Objectives:	• Memahami dasar pengembangan kreativitas • Memahami paktor penghambat creativitas • Memahami potensi diri yang dapat dikembangkan •		
Linkages:	• •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

Topic - 3.4.2

Title:	Pendukung Potensi dan Hambatan Kreativitas	Code:	3.4.2
Location:	Class Room		
Duration:	1 x 2 jam		
Goal:	Memahami Kemampuan Diri		
Objectives:	• Mengetahui cara mengembangkan kreativitas • Mampu membuka diri terhadap pandangan lain • Menyadari pada sikap dan perilaku diri •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.4.3

Title:	Menumbuhkan Kreativitas	Code:	3.4.3
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Berkembangnya Kreativitas		
Objectives:	• Mampu merangsang munculnya kreativitas • Memahami kemudahan dan kesulitan tumbuhnya sifat kreatif • Mengetahui alat bantu pengembangan kreativitas •		
Linkages:	• •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

3.5. Komunikasi

Topic - 3.5.1

Title:	Komunikasi Satu & Dua Arah	Code:	3.5.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mampu berkomunikasi dengan benar		
Objectives:	• Mampu membedakan berbagai bentuk dan cara berkomunikasi • Mampu memilih cara berkomunikasi yang efektif yang bisa digunakan dalam pelatihan • Mampu melakukan komunikasi secara efektif •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.5.2

Title:	Teknik Dialog & Tanya Jawab	Code:	3.5.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil Berdiskusi		
Objectives:	• Mampu memperbaiki teknik dialog untuk membangun komunikasi yang lancer • Mengenal berbagai bentuk cara mengajukan pertanyaan • Mampu menghindari cara dialog yang tidak efektif •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic - 3.5.3

Title:	Teknik Diskusi & Pengambilan Keputusan	Code:	3.5.3
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil dengan teknik pengambilan keputusan kelompok		
Objectives:	• Mengerti teknik diskusi yang efektif, dan pengambilan keputusan yang tepat • Terampil menyimak dan mendengar permasalahan dalam diskusi • Terampil bertanya dan menjawab dalam diskusi •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 3.5.4

Title:	Menulis Itu Mudah	Code:	3.5.4
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mengerti cara yang benar penulisan pesan		
Objectives:	• Mengetahui syarat pesan yang diperlukan • Mengetahui teknik dasar menulis ungkapan untuk penyampaian pesan • Mengetahui langkah penulisan pesan dengan benar •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic - 3.5.5

Title:	Pengantar Media Rakyat	Code:	3.5.5
Location:	FTF		
Duration:	1 x 2 jam		
Goal:	Mengetahui cara membuat media rakyat		
Objectives:	• Mampu mengidentifikasi jenis media rakyat yang diperlukan • Mampu membuat contoh jenis media rakyat • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

4. Manajemen SL

4.1 Kegiatan Pra-SL

Title:	Pola Penyelenggaraan SL AF	Code:	4.1.1
Location:	Ruang Kelas		
Duration:	2 jam		
Goal:	Peserta menguasai strategi, prinsip-prinsip dan ruang lingkup penyelenggaraan SL		
Objectives:	• menguasai strategi penyelenggaraan Sekolah Lapangan • menguasai prinsip-prinsip penyelenggaraaan Sekolah Lapangan • mampu menyelenggarakan Sekolah Lapangan		
Linkages:	• Facilitation & Networking • Pengelolaan Pembibitan • Pengelolaan Kebun • AES & WSM		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

Title:	Peran Perempuan dan Laki-Laki (di kebun)	Code:	4.1.2
Location:	TOT	Desa SLAF	
Duration:	2 jam	1 x 2 jam	
Goal:	Peserta mampu memandu proses analisis peran perempuan dan laki-laki (di kebun) dalam pertemuan persiapan SLAF di desa		
Objectives:	• mampu memandu proses analisis perbedaan peran perempuan dan laki-laki di kebun dengan masyarakat/petani calon anggota SLAF di desa • mampu memandu proses pemilihan perempuan untuk terlibat sebagai anggota SL		
Linkages:	• Field Trip – Proses-proses Persiapan SL di desa ESP •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Pemilihan Peserta SL dan Lahan Belajar (Pembibitan dan Kebun)	Code:	4.1.3
Location:	TOT	Desa SLAF	
Duration:	2 jam	1 x 3 jam	
Goal:	Peserta menguasai kriteria pemilihan peserta dan lahan belajar di SLAF		
Objectives:	• mampu menseleksi peserta SL AF yang tepat • mampu menentukan lahan belajar SL untuk pembibitan dan kebun		
Linkages:	• Field Trip – Persiapan-persiapan SL di desa ESP •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Proses Persiapan SLAF	Code:	4.1.4
Location:	TOT	Desa SL	
Duration:	2 jam	2 x 3 jam	
Goal:	Peserta menguasai proses persiapan SLAF di desa		
Objectives:	• Mampu mengorganisir pertemuan-pertemuan persiapan SL di desa dalam rangka pemilihan peserta • Mampu menerapkan pendekatan partisipatoris dalam penentuan peserta dan pengorganisasian SL		
Linkages:	• Field Trip – Persiapan SL di desa ESP •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Title:	Analisa Kebutuhan dan Perencanaan Kegiatan SLAF (Kontrak Belajar)	Code:	4.1.5
Location:	TOT	Desa SL	
Duration:	2 jam	2 jam	
Goal:	Peserta mampu merancang kegiatan belajar SLAF berdasarkan kondisi masyarakat dan permasalahan setempat		
Objectives:	• Mampu mengenali permasalahan yang terkait dengan AF di desa • Mampu mengenali kondisi masyarakat desa yang terkait dengan AF • Mampu merancang kegiatan belajar SLAF bersama petani		
Linkages:	• Pre-test (Ballot Box) •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Pre-Post "ballot-box" Test SLAF	Code:	4.1.6
Location:	TOT	Desa SL	
Duration:	2 jam	2 x 3 jam	
Goal:	Peserta mampu menyelenggarakan pre-post test SLAF sebagai alat untuk mengetahui kebutuhan petani dan merancang kegiatan latihan SLAF		
Objectives:	• Mampu merancang pertanyaan yang terkait dengan kondisi lapangan AF dan pengalaman petani setempat • Mampu membahas hasil test sebagai bahan penentuan kebutuhan belajar dan rancangan kegiatan latihan SLAF bersama petani		
Linkages:	• Field Trips – Proses Persiapan SLAF di Desa ESP •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Dokumentasi SL	Code:	4.1.7
Location:	TOT		
Duration:	1 jam		
Goal:	Peserta mampu melakukan pencatatan perkembangan penyelenggaraan SLAF dan kemampuan petani		
Objectives:	• Mampu melaporkan informasi SLAF dan perkembangan penyelenggaraannya • Mampu melaporkan perkembangan petani dalam pelaksanaan SLAF		
Linkages:	• Seluruh proses belajar di SLAF (pertemuan persiapan – rencana tindak lanjut) •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

4.2 Kegiatan Selama SL

Title:	Mengelola Pembibitan & Kebun di SL	Code:	4.2.1
Location:	TOT	Desa SL	
Duration:	2 jam	8 x 3 jam	
Goal:	Peserta menguasai pengelolaan pembibitan dan kebun sebagai alat belajar bersama petani SLAF		
Objectives:	• Menguasai proses pengelolaan pembibitan bersama petani • Mampu meningkatkan ketrampilan petani dalam pembibitan • Mampu bekerja dan belajar bersama petani dalam pengelolaan kebun campur • Mampu bekerja bersama petani dalam merencanakan perbaikan kebun campur		
Linkages:	• Pengelolaan Pembibitan • Pengelolaan Kebun		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Memandu di SL (1) – AES	Code:	4.2.2
Location:	FTF	Desa SL	
Duration:	2 jam	5 x 2 jam	
Goal:	Peserta mampu memandu proses AES di SLAF		
Objectives:	• Mampu memandu proses pengamatan, pencatatan, diskusi, analisa dan menarik kesimpulan dari proses AES di kebun • Mampu memandu proses perencanaan perbaikan kebun petani		
Linkages:	• Pengelolaan Kebun • AES & WSM		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Title:	Memandu di SL (2) – Topik Khusus & Studi	Code:	4.2.3
Location:	FTF	Desa SL	
Duration:	2 jam	7 x 1 jam	
Goal:	Peserta mampu memandu proses belajar Topik Khusus dan Studi Lapangan anggota SLAF		
Objectives:	• Mampu menentukan Topik Khusus dan Studi Lapangan yang cocok dengan permasalahan dan kebutuhan anggota SL • Mampu memandu proses belajar Topik Khusus dan Studi Lapangan bagi anggota SL		
Linkages:	• Pengelolaan Pembibitan • Pengelolaan Kebun • Facilitation & Networking • AES & WSM		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Memandu di SL (3) – Dinamika Kelompok & Evaluasi (Mingguan)	Code:	4.2.4
Location:	FTF	Desa SL	
Duration:	2 jam	8 x 30 menit	
Goal:	Peserta mampu memandu proses belajar Dinamika Kelompok dan Evaluasi SLAF		
Objectives:	• Mampu menentukan Dinamika Kelompok yang cocok dengan permasalahan dan kebutuhan belajar anggota SL • Mampu memandu proses belajar Dinamika Kelompok bagi anggota SL • Mampu memandu proses Evaluasi mingguan bagi anggota belajar SL •		
Linkages:	• Facilitation & Networking • Norm Good Management Practice		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Title:	Hari Lapangan (Field Day)	Code:	4.2.5
Location:	FTF	Desa SL	
Duration:	1 jam	2 x 3 jam	
Goal:	Peserta mampu memandu proses persiapan dan penyelenggaraan Hari Lapangan sebagai alat kampanye oleh anggota SLAF di desa		
Objectives:	• Mampu memandu proses persiapan Hari Lapangan dengan anggota SL		
	• Mampu memberikan masukan kepada anggota SL untuk penyelenggaraan Hari Lapangan		
	• Mampu mengorganisir kerja anggota SLAF dalam penyelenggaraan Hari Lapangan		
	•		
Linkages:	• Seluruh proses-proses belajar di SLAF		
	•		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

4.3 Kegiatan Setelah SL

Title:	Perencanaan Tindak Lanjut	Code:	4.3.1
Location:	TOT	Desa SL	
Duration:	1 jam	1 x 1 jam	
Goal:	Peserta mampu memandu pembahasan rencana tindak lanjut kelompok SLAF		
Objectives:	• Mampu memberi masukan kepada kelompok SLAF untuk kelanjutan program • Mampu memandu proses diskusi perencanaan tindak lanjut		
Linkages:	• Proses belajar di SLAF • AES & WSM		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Tindak Lanjut SL (1) – Jaringan Petani	Code:	4.3.2
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Peserta mampu mengorganisir jaringan petani SLAF di beberapa desa sebagai upaya tindak lanjut SL		
Objectives:	• Mampu mengidentifikasi faktor-faktor penting di tingkat lokal yang mendukung dan menghambat upaya tindak lanjut jaringan petani • Mampu memberi dukungan kepada jaringan petani		
Linkages:	• AES & WSM • Pengelolaan Pembibitan • Pengelolaan Kebun		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Title:	Pengembangan Media	Code:	4.3.3
Location:	TOT	Desa SL	
Duration:	1 x 1 jam	1 x 1 jam	
Goal:	Peserta mampu mengembangkan Media sederhana untuk mendukung komunikasi Jaringan Petani		
Objectives:	• Mampu menguasai beberapa alternatif penggunaan Media untuk Petani • Mampu mengembangkan Media sederhana yang berguna untuk Jaringan Petani • •		
Linkages:	• Facilitation and Networking – Media untuk Rakyat, Menulis itu Mudah •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Tindak Lanjut SL (2) – TOT dan SL oleh Petani Pemandu	Code:	4.3.4
Location:	TOT	Desa SL	
Duration:	1 x 1 jam	1 x 1 jam	
Goal:	Peserta mampu memahami TOT dan SL oleh Petani Pemandu sebagai tahapan tindak lanjut pengembangan jaringan petani WSM ESP		
Objectives:	• Mampu mengidentifikasi hal-hal penting terkait dengan kelayakan rencana TOT dan SL oleh Petani Pemandu • Mampu mengembangkan kurikulum TOT dan SL oleh Petani Pemandu • Mampu mendukung penyelenggaraan TOT dan SL oleh Petani Pemandu		
Linkages:	• Semua Topik yang Relevan di TOT •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

5. AES & WSM

Topic 5.1.1

Title:	Pengantar Pemetaan dan Penggunaan Alat	Code:	5.1.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Paham tujuan pemetaan dan mengetahui alat yang diperlukan		
Objectives:	• Mengerti tujuan dan cara melakukan pemetaan • Mengetahui alat yang digunakan untuk kegiatan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.1.2

Title:	Penggunaan Peta dan Alat Pemetaan	Code:	5.1.2
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Terampil menggunakan peta sebagai alat diskusi		
Objectives:	• Memahami secara rinci menggunakan peta sebagai alat diskusi • Memahami arti setiap komponen peta yang dibuat • Mampu merancang kegiatan berdasarkan hasil pemetaan • Mampu menggunakan alat secara benar •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

Topic 5.1.3

Title:	Pembuatan Peta di Lingkunagn TOT	Code:	5.1.3
Location:	TOT		
Duration:	2 x 2 jam		
Goal:	Terampil membuat contoh peta		
Objectives:	• Mampu mengidentifikasi komponen peta dengan tepat • Memahami interaksi setiap komponen peta yang dibuat • Mampu menuangkan komponen kedalam peta dengan tepat • Mampu menganalisa peta dan menyimpulkan dengan benar • Mampu membuat contoh rancangan kegiatan berdasarkan peta		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.1.4

Title:	Pembuatan Peta Dasar Kebun & Penggunaan Lahan	Code:	5.1.4
Location:	TOT		
Duration:	1 x 3 jam		
Goal:	Terampil menganalisa penggunaan lahan skala kebun		
Objectives:	• Mampu mengidentifikasi komponen peta secara tepat • Mengerti interaksi setiap komponen dalam kebun • Mampu menuangkan komponen kedalam peta dengan lengkap • Mampu menganalisa peta dan menyimpulkan dengan benar • Mampu membuat contoh rancangan kegiatan berdasarkan peta		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.1.5

Title:	Transek & Pemetaan AES Kampung/Desa ESP	Code:	5.1.5
Location:	Kampung/Desa		
Duration:	1 x 3 jam		
Goal:	Terampil melakukan transek & membuat peta AES kampong/Desa		
Objectives:	• Mampu mengidentifikasi komponen dengan tepat • Memahami interaksi setiap komponen peta di kampung/Desa • Mampu membuat peta lengkap skala kampong/Desa dengan segala komponen yang tersedia • Mampu menganalisa peta dan menyimpulkan dengan benar • Mampu membuat contoh rancangan kegiatan berdasarkan peta		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.1.6

Title:	Analisa AES Kampung/Desa ESP	Code:	5.1.6
Location:	Kampung/Desa		
Duration:	1 x 2 jam		
Goal:	Terampil menganalisa AES kampong/desa ESP		
Objectives:	• Mampu menganalisa pungsi tiap komponen penyusun kampong hasil transek secara benar • Memahami adanya keterkaitan setiap komponen yang dihasilkan selama transek • Mengetahui paktor yang dapat mempengaruhi interaksi antar komponen dilapangan • Mampu menganalisa dan menyimpulkan kondisi kampong/desa berdasarkan interaksi antar komponen • Mampu membuat contoh rancangan kegiatan berdasarkan hasil AES •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.2.1

Title:	Kriteria dan Ciri Lahan Kritis	Code:	5.2.1
Location:	TOT dan Luar TOT		
Duration:	1 x 4 jam		
Goal:	Memahami criteria dan ciri phisik lahan kritis		
Objectives:	• Mengetahui ciri – cirri visual lahan kritis • Mengetahui strata lahan kritis berdasarkan kondisi phisik lahan • Mengetahui gambaran umum lahan kritis setelah pengamatan di lapangan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.2.2

Title:	Analisa Kondisi Lahan Desa ESP	Code:	5.2.2
Location:	Desa ESP		
Duration:	1 x 2 jam		
Goal:	Mampu menganalisa kondisi lahan skala desa		
Objectives:	• Memahami karakteristik pengelolaan lahan desa • Mengetahui kondisi lahan desa • Mengerti dampak pengelolaan terjhadap kondisi lahan • •		
Linkages:	• •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

Topic 5.2.3

Title:	Analisa Alternative Penanganan Lahan	Code:	5.2.3
Location:	Luar TOT/Kebun		
Duration:	1 x 2 jam		
Goal:	Mampu merancang konsep penanganan lahan		
Objectives:	• Mengerti konsep dasar penanganan lahan secara umum • Mengerti dampak setiap pilihan penanganan terhadap lingkungn • Memahami kecocokan rancangan penanganan pada areal praktek • Mampu mengidentifikasi dampak rancangan penanganan terhadap aspek kehidpuan petani pemilik kebun • Mampu memilih rancangan penanganan yang sesuai • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.2.4

Title:	Mengamati Kondisi SUB – DAS	Code:	5.2.4
Location:	SUB – DAS		
Duration:	1 x 4 jam		
Goal:	Terampil menganalisa kondisi SUB – DAS		
Objectives:	• Memahami bentuk bentangan, karakteristik phisik lahan, kemiringan, bentuk kontur, cara konservasi oleh masyarakat, budaya bertanam, komposisi tanaman, dan pola penggunaan lahan. • Mengetahui kegiatan non pertanian yang berdampak terhadap kondisi lahan • Mampu menganalisa pengaruh setiap karakteristik dan perilaku pengelolaan terhadap kondisi lahan. • Mampu menganalisa dampak lahan kritis terhadap kehidupan masyarakat di SUB – DAS • Mampu memikirkan kerangka awal pola penanganan lahan kritis secara rinci •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.3.1

Title:	Tipe Hak Pengelolaan Lahan	Code:	5.3.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Memahami tipe pengelolaan lahan oleh masyarakat		
Objectives:	• Mengetahui berbagai tipe pengelolaan lahan oleh masyarakat • Mengetahui kekuatan dan kelamahan setiap tipe pengelolaan • Memahami dampak pengelolaan terhadap kondisi lahan dan kehidupan masyarakat • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.3.2

Title:	Analisa Hak Pengelolaan Lahan di Desa	Code:	5.3.2
Location:	Desa ESP		
Duration:	1 x 2 jam		
Goal:	Memahami tipe pengelolaan lahan di desa		
Objectives:	• Mengetahui klasifikasi pengelolaan lahan di desa contoh • Mengetahui proses mendapatkan akses pengelolaan lahan bukan milik • Mengetahui bentuk kerjasama petani pengelola dengan pemilik lahan • Mengetahui dampak kerjasama bagi pengelola dan pemilik lahan • Mengetahui konsep awal alternative pengelolaan yang cocok • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.3.3

Title:	Analisa Alternative Hak Pengelolaan Lahan	Code:	5.3.3
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mampu memilih alternative hak pengelolaan lahan		
Objectives:	• Mengerti cara mengidentifikasi alternative pengelolaan berdasarkan kondisi local • Mampu mengidentifikasi dampak dari alternative pengelolaan terhadap masyarakat dan pemilik lahan • Mampu memilih alternative yang menguntungkan pihak pengelola dan pemilik lahan • Mampu mengidentifikasi kemungkinan dampak dari pilihan tipe pengelolaan • Mampu mendiskusikan alternative pengelolaan dengan masyarakat sebagai awal kegiatan lanjutan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.4.1

Title:	Fungsi SDA & Ekonomi, Sosial dan Etnis	Code:	5.4.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mengetahui Manfaat SDA terhadap Ekonomi,Social dan Etnis		
Objectives:	• Mengerti Manfaat SDA • Mengerti Keterkaitan SDA dan Kehidupan Sosial Masyarakat • • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.4.2

Title.	Pengantar Pengembangan Forum Multi-Fihak di SUB - DAS	Code:	5.4.2
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Mengerti Konsep Forum Multipihak		
Objectives:	• Mengetahui konsep, maksud dan tujuan forum multipihak • Mengetahui bentuk-bentuk forum multipihak yang telah dikembangkan saat ini • Mengetahui cara membentuk forum multipihak • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.5.1

Title:	Ruang Lingkup Daur Air Secara Sederhana	Code:	5.5.1
Location:	Luar TOT		
Duration:	1 x 2 jam		
Goal:	Memahami ruang lingkup air secara sederhana		
Objectives:	• Mengetahui prinsip dan sistim aliran air secara umum • Mengerti prinsip re-charger dan dis-charger air • Mengenal contoh bentuk re-charger dan dis-charger dilapangan • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.5.2

Title:	Analisa Peran Ekosistem & Pengelolaan SD Air	Code:	5.5.2
Location:	Luar TOT		
Duration:	1 x 4 jam		
Goal:	Memahami peran unsur ekosistem & pengelolaan SD air		
Objectives:	• Mengetahui unsur ekosistem yang berperan penting • Mengerti interaksi antar unsur dalam pengelolaan SD air • Mengenal contoh interaksi dilapangan • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.6.1

Title:	Teknik Konservasi Sumber Daya Air	Code:	5.6.1
Location:	TOT		
Duration:	1 x 1 jam		
Goal:	Memahami Teknik-Teknik Konservasi Sumber Daya Air		
Objectives:	• Mengerti teknik – teknik konservasi yang umum • Mengerti metoda penerapan teknik konservasi • Mengerti hambatan penerapan teknik konservasi di masyarakat • Mengetahui contoh – contoh teknik konservasi • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.6.2

Title:	Methoda Sipil Teknis	Code:	5.6.2
Location:	Luar TOT		
Duration:	1 x 4 jam		
Goal:	Memahami Sipil Teknis		
Objectives:	• Mengerti Prinsip Sipil Teknis • Mampu menentukan bentuk pilihan konservasi yang cocok dilapangan • Mampu melakukan kegiatan sedikitnya 1 (satu) contoh dapat dikerjakan dengan baik • Mengetahui hambatan dan solusi konservasi sipil teknis • • •		
Linkages:	• •		

Key Points	Resources	Method	Time
Description:			
Conclusion:			

Topic 5.6.3

Title:	Methoda Vegetasi	Code:	5.6.3
Location:	Luar TOT		
Duration:	1 x 4 jam		
Goal:	Memahami Methoda Tumbuhan		
Objectives:	• Mengerti Prinsip Methoda Tumbuhan • Mengerti cara merancang tata letak dan komposisi tumbuhan berdasarkan situasi dilapangan • Mengerti karakteristik dan kegunaan setiap tumbuhan yang direncanakan • Mampu melakukan kegiatan sedikitnya 1 (satu) contoh dapat dikerjakan dengan baik • Memahami hambatan dan solusi metoda tumbuhan • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.6.4

Title:	Methoda Daur Ulang Air	Code:	5.6.4
Location:	Luar TOT		
Duration:	1 x 4 jam		
Goal:	Memahami Methoda Daur Ulang Air		
Objectives:	• Mengerti Prinsip dan contoh Metoda Daur Ulang Air • Mengerti cara merancang tata letak dan metoda pemanpaatan seperti, embung, tempat resapan, dll • Mengerti kecocokan bentuk phisik kegiatan dengan kondisi lapangan • Mampu merancang sedikitnya satu contoh kegiatan ditempat latihan • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.7.1

Title:	Hukum dan Kebijakan Sumber Daya Air	Code:	5.7.1
Location:	TOT		
Duration:	1 x 2 jam		
Goal:	Mengetahui Aturan dan Kebijakan Sumber Daya Air		
Objectives:	• Mengetahui Peraturan2 & Undand-Undang tentang Sumber Daya Air • Mengerti dampak peraturan dan UU terhadap masyarakat • • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.7.2

Title:	Kearifan Lokal Pengelolaan SDA	Code:	5.7.3
Location:	TOT		
Duration:	1 x 4 jam		
Goal:	Mengetahui Kearifan Lokal Pengelolaan SDA		
Objectives:	• Mengenal Sejarah Kearifan Lokal • Mengerti Maksud dan Tujuan bentuk Kearifan Lokal • Mengetahui bentuk Kearifan Lokal yang masih ada dimasyarakat • Mengetahui sikap masyarakat terhadap kearifan local • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topic 5.7.3

Title:	Konflik antara Kearifan Lokal & Hukum Modern	Code:	5.7.3
Location:	TOT		
Duration:	1 x 4 jam		
Goal:	Mengetahui konflik kepentingan		
Objectives:	• Mampu mengidentifikasi sumber perbedaan masalah pendekatan • Mengetahui bentuk konflik dan dampak yang muncul di msayarakat • Mengetahui cara menyususn strategi penyelesaian yang cocok • • • •		
Linkages:	• •		

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Topik2 untuk Tindak Lanjut TOT dan SLAF

Title:	Analisis Kebutuhan Kayu Penduduk	Code:
Location:	TOT	
Duration:	1 x 2 jam	
Goal:	Terampil memfasilitasi topic kebutuhan kayu penduduk	
Objectives:	• Mampu mengidentifikasi paktor yang mempengaruhi peningkatan keperluan kayu masyarakat • Mampu memperkirakan jumlah kebutuhan kayu untuk jangka waktu tertentu • Mampu mengidentifikasi hambatan pemenuhan kayu masyarakat • Mampu merancang cara pemenuhan kebutuhan kayu masyarakat • • •	
Linkages:	• •	

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Analisis Produksi Kayu Penduduk	Code:
Location:	TOT	
Duration:	1 x 2 jam	
Goal:	Terampil memfasilitasi topic produksi kayu penduduk	
Objectives:	• Mampu mengidentifikasi keperluan penggunaan kayu di masyarakat • Mampu memperkirakan produksi kayu berdasarkan keperluan penggunaan • Mampu meperkiraan ketersediaan kayu untuk jangka waktu tertentu • Mampu merancang cara pemenuhan kebutuhan kayu masyarakat • • •	
Linkages:	• •	

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Analisa Keseimbangan & Dampak Penebangan	Code:
Location:	TOT	
Duration:	1 x 2 jam	
Goal:	Terampil memfasilitasi keseimbangan & dampak penebangan	
Objectives:	• Mengerti bentuk keseimbangan & dampak penebangan • Mengetahui cara efisiensi penggunaan kayu keperluan masyarakat • Mampu mengidentifikasi paktor penyebab ketidak serasian kebutuhan dan produksi • Mampu merancang cara peningkatan produksi dan efisiensi pemakaian kayu local • • •	
Linkages:	• •	

Key Points	**Resources**	**Method**	**Time**
Description:			
Conclusion:			

Title:	Usaha Pemenuhan Kebutuhan Kayu	Code:
Location:	TOT	
Duration:	1 x 2 jam	
Goal:	Mampu menganalisa upaya pemenuhan kebutuhan kayu	
Objectives:	• Mampu mengidentifikasi pola penggunaan lahan dan pola penanaman • Mampu mengidentifikasi dampak pola penggunaan lahan dan pola penanaman terhadap penyediaan kayu • Mampu mengidentifikasi alternative pola penggunaan lahan dan pola penanaman yang serasi dengan usaha pemenuhan kayu • Mampu merumuskan rencana sistim pengelolaan lahan yang cocok untuk pemenuhan kebutuhan kayu dan non kayu (1) • Mampu merencanakan sistim pengelolaan yang cocok dengan (1) bersama dengan masyarakat • •	
Linkages:	• •	

Key Points	**Resources**	**Method**	**Time**
Description:			

Conclusion:

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